



# Wildlife Odisha-2016



**WILDLIFE ORGANISATION**

Forest and Environment Department

Government of Odisha

October, 2016





Indian Skimmer in sandbar of  
Mahanadi River near Mundali, Chandaka Wildlife Division



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**Wildlife Odisha-2016**

Wildlife Organisation, Forest & Environment Department,  
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# CONTENTS

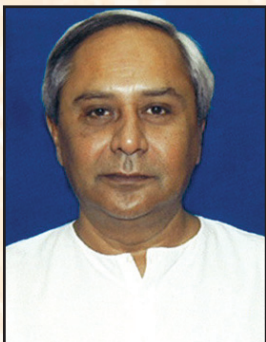
1.	Chapter-I Introduction to the State of Odisha	1-4
2.	Chapter-II Wildlife Conservation in the State <ul style="list-style-type: none"><li>• In-Situ Conservation Areas (National Parks and Sanctuaries)</li><li>• Other Conservation Areas<ul style="list-style-type: none"><li>• Tiger Reserves</li><li>• Elephant Reserves</li><li>• Biosphere Reserve</li><li>• Elephant Corridors</li></ul></li></ul>	5-18
3.	Chapter-III Ex-situ Conservation Areas Zoos in Odisha	19-22
4.	Chapter-IV Achievers in the field of Wildlife Conservation	23-28
5.	Chapter-V Human-Animal Conflicts	29-34
6.	Chapter-VI Mitigation of Human-Animal Conflicts	35-38
7.	Chapter-VII Wildlife census	39-50
8.	Chapter-VIII Wildlife Offence Cases	51
9.	Chapter-IX Budget	52-54
10.	Chapter-X Highlights	55-72





Joranda Water Fall, Similipal





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## ୬୨ ତମ ବନ୍ୟପ୍ରାଣୀ ସପ୍ତାହ, ୨୦୧୬ ପାଳନ ଉପଲକ୍ଷେ ମାନ୍ୟବର ମୁଖ୍ୟମନ୍ତ୍ରୀଙ୍କ ବାର୍ତ୍ତା

ଜାତିର ଜନକ ମହାତ୍ମା ଗାନ୍ଧୀଙ୍କର ଜନ୍ମତିଥି ଅକ୍ଟୋବର ଦୁଇ ତାରିଖରୁ ପ୍ରତିବର୍ଷ ବନ୍ୟପ୍ରାଣୀ ସପ୍ତାହ ପାଳନ କରାଯାଇଥାଏ । ବଣ ଜଙ୍ଗଲ ଓ ବିଭିନ୍ନ ପ୍ରାକୃତିକ ପରିବେଶରେ ରହୁଥିବା ବନ୍ୟପ୍ରାଣୀଙ୍କର ସୁରକ୍ଷା ଓ ସେମାନଙ୍କ ଆବାସସ୍ଥଳୀର ସଂରକ୍ଷଣ ଦିଗରେ ଆମର ପ୍ରତିବଦ୍ଧତାକୁ ଦୋହରାଇବା ଏବଂ ଜନମାନସରେ ଏ ଦିଗରେ ସଚେତନତା ସୃଷ୍ଟି କରିବା ଏହି ସପ୍ତାହ ପାଳନର ମୁଖ୍ୟ ଉଦ୍ଦେଶ୍ୟ ।

ମାନ୍ୟବର ସମାଜର ଅସ୍ଥିତ୍ୱ ଓ ଜୈବ ବିବିଧତା, ପରିବେଶର ସଂରକ୍ଷଣ ଉପରେ ସମ୍ପୂର୍ଣ୍ଣ ଭାବେ ନିର୍ଭରଶୀଳ । ସେ ଦୃଷ୍ଟିରୁ ବନ୍ୟପ୍ରାଣୀ ଓ ସେମାନଙ୍କ ଆବାସସ୍ଥଳୀର ସୁରକ୍ଷା ପ୍ରକାରାନ୍ତରେ ପୃଥିବୀରେ ମନୁଷ୍ୟର ସ୍ଥିତି ଓ ସମୃଦ୍ଧିର ରକ୍ଷାକବଚ ସଦୃଶ । ଏଥିପାଇଁ ଜୀବେଦୟା ଆମ ସଂସ୍କୃତିର ଏକ ମହାନ ପରମ୍ପରା । ଆମ ରାଜ୍ୟରେ ବନ୍ୟଜୀବଙ୍କୁ ସୁରକ୍ଷା ପ୍ରଦାନ ନିମିତ୍ତ ଦୁଇ ଗୋଟି ଜାତୀୟ ଉଦ୍ୟାନ ଏବଂ ୧୯ ଗୋଟି ଅଭୟାରଣ୍ୟ ସୃଷ୍ଟି କରାଯାଇଛି । ଅଭୟାରଣ୍ୟ ବାହାରେ ମଧ୍ୟ ଅନେକ ବନ୍ୟପ୍ରାଣୀ ବସବାସ କରନ୍ତି । ବନ୍ୟପ୍ରାଣୀ ଯେଉଁଠାରେ ଆଆନ୍ତୁ ନା କାହିଁକି, ସେମାନଙ୍କର ସୁରକ୍ଷା ଏବଂ ସଂରକ୍ଷଣ ଆମର କର୍ତ୍ତବ୍ୟ ।

ଚଳିତ ବର୍ଷ ମଧ୍ୟ ବନ୍ୟପ୍ରାଣୀ ଓ ସେମାନଙ୍କର ଆବାସସ୍ଥଳୀର ରକ୍ଷଣାବେକ୍ଷଣ ଓ ଉନ୍ନତି ପାଇଁ ରାଜ୍ୟ ସରକାର ବଳିଷ୍ଠ ପଦକ୍ଷେପ ନେଉଛନ୍ତି । ବିଶେଷକରି ଜନସାଧାରଣଙ୍କୁ ଏହି ବିଷୟରେ ଅଧିକ ସଚେତନ ଓ ସମ୍ବେଦନଶୀଳ କରିବା ଉଦ୍ଦେଶ୍ୟରେ ଏ ବର୍ଷ ୩୦ଟି ସ୍ଥାନରେ ପରିବେଶ ପର୍ଯ୍ୟଟନର ବିକାଶ କରାଯାଉଅଛି ।

ବନ୍ୟପ୍ରାଣୀ ସୁରକ୍ଷା, ସଂରକ୍ଷିତ ଅଞ୍ଚଳ ଗୁଡ଼ିକର ସୁପରିଚାଳନା ତଥା ଅଭିବୃଦ୍ଧି ପାଇଁ ରାଜ୍ୟ ସରକାର ସର୍ବଦା ସଂକଳ୍ପବଦ୍ଧ । ରାଜ୍ୟ ସରକାରଙ୍କ ଉଦ୍ୟମକୁ ଅଧିକ ବଳିଷ୍ଠ ଓ ଫଳପ୍ରସ୍ତ କରିବା ପାଇଁ ମୁଁ ଜନସାଧାରଣଙ୍କ ସକ୍ରିୟ ସହଯୋଗ କାମନା କରୁଛି ।

ନବୀନ ପଟ୍ଟନାୟକ  
(ନବୀନ ପଟ୍ଟନାୟକ)





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 ୨୩୨୨୧୮୫  
 ବାସଗୃହ : ୨୫୩୬୭୯୫  
 ବିଧାନସଭା : ୨୫୩୯୦୨୪

ନଂ.

ଭୁବନେଶ୍ୱର

ତା. ୨୯.୯.୧୭

**ବିକ୍ରମ କେଶରୀ ଆରୁଖ**

ମନ୍ତ୍ରୀ

ଜଙ୍ଗଲ ଓ ପରିବେଶ, ସଂସଦୀୟ ବ୍ୟାପାର  
 ଓଡ଼ିଶା

**୬୭ ତମ ବନ୍ୟପ୍ରାଣୀ ସପ୍ତାହ, ୨୦୧୭ ପାଳନ ଉପଲକ୍ଷେ**

**ମାନ୍ୟବର ଜଙ୍ଗଲ ଓ ପରିବେଶ ମନ୍ତ୍ରୀଙ୍କ ବାର୍ତ୍ତା**

ଅହିଂସାର ଉପାସକ ଜାତିର ଜନକ ମହାତ୍ମାଗାନ୍ଧୀଙ୍କର ପୂଣ୍ୟ ଜନ୍ମତିଥି ଅକ୍ଟୋବର ୨ ତାରିଖରୁ ଏକ ସପ୍ତାହ ଧରି ପ୍ରତିବର୍ଷ ବନ୍ୟପ୍ରାଣୀ ସପ୍ତାହ ସାରା ଦେଶରେ ପାଳନ କରାଯାଇଥାଏ । ବନ୍ୟପ୍ରାଣୀ ଓ ସେମାନଙ୍କ ଆବାସସ୍ଥଳୀର ସୁରକ୍ଷା ଓ ସଂରକ୍ଷଣ ଦିଗରେ ବ୍ୟାପକ ଜନସଚେତନତା ସୃଷ୍ଟି କରିବା ଓ ସେଥିପାଇଁ ଦୃଢ଼, ବଳିଷ୍ଠ ପଦକ୍ଷେପ ଗ୍ରହଣ କରିବା ବନ୍ୟପ୍ରାଣୀ ସପ୍ତାହ ପାଳନର ମୁଖ୍ୟ ଉଦ୍ଦେଶ୍ୟ ।

ଜଳବାୟୁ, ପରିବେଶ, ଜୈବବିବିଧତା ଜଙ୍ଗଲ ଉପରେ ନିର୍ଭରଶୀଳ । ଜଙ୍ଗଲ ହେଉଛି ବନ୍ୟପ୍ରାଣୀଙ୍କ ପ୍ରମୁଖ ଆବାସସ୍ଥଳୀ । ଅତ୍ୟାବଶ୍ୟକ ଅମ୍ଳଜାନ ଠାରୁ ଆରମ୍ଭ କରି ଔଷଧ ପର୍ଯ୍ୟନ୍ତ ବହୁବିଧ ଉପାଦାନ ଜଙ୍ଗଲରୁ ହିଁ ଉପଲବ୍ଧ ହୋଇଥାଏ । ମାତ୍ର ବ୍ୟାପକ ବୃକ୍ଷଚ୍ଛେଦନ ଯୋଗୁଁ ଜଙ୍ଗଲ ନିର୍ଭିତ୍ତ ହୋଇଥାଏ ଓ ବିରଳ ବନ୍ୟପ୍ରାଣୀ ଲୋପ ପାଇ ଯାଇଥାନ୍ତି ।

ଓଡ଼ିଶା ଜୈବବିବିଧତାର ଗନ୍ତାଘର । ଆମ ରାଜ୍ୟର ଜଙ୍ଗଲଗୁଡ଼ିକରେ ୨୭ ପ୍ରଜାତିର ଉଦ୍ଭିଦବନ, ୧୩୧ ପ୍ରଜାତିର ସରୀସୃପ, ୪୭୯ ପ୍ରଜାତିର ପକ୍ଷୀ ଏବଂ ୮୭ ପ୍ରଜାତିର ସ୍ତନ୍ୟପାୟୀ ପ୍ରାଣୀ ଦେଖାଯାଆନ୍ତି । ସେମାନଙ୍କ ସୁରକ୍ଷା ଓ ସଂରକ୍ଷଣ ପାଇଁ ରାଜ୍ୟ ସରକାର ବିଭିନ୍ନ ପଦକ୍ଷେପ ନେଉଛନ୍ତି । ସେଥିପାଇଁ ଆମ ରାଜ୍ୟରେ ୧୯ଟି ଅଭୟାରଣ୍ୟ, ୨ ଗୋଟି ଜାତୀୟ ଉଦ୍ୟାନ, ୨ ଗୋଟି ବ୍ୟାଘ୍ର ପ୍ରକଳ୍ପ ଓ ଗୋଟିଏ ଜୈବମଣ୍ଡଳ ସୃଷ୍ଟି କରାଯାଇଛି । ହସ୍ତୀ ପ୍ରକଳ୍ପ, ବ୍ୟାଘ୍ର ପ୍ରକଳ୍ପ, ସାମୁଦ୍ରିକ କଇଁଛ ସୁରକ୍ଷା, ବିଦେଶାଗତ ପକ୍ଷୀମାନଙ୍କର ସୁରକ୍ଷା, କୃଷ୍ଣସାର ମୃଗ ଓ କୁମ୍ଭୀର ଇତ୍ୟାଦି ବନ୍ୟପ୍ରାଣୀମାନଙ୍କର ସୁରକ୍ଷା ପାଇଁ ବିଭିନ୍ନ ଯୋଜନା କାର୍ଯ୍ୟକାରୀ କରାଯାଉଛି ।

ବନ୍ୟପ୍ରାଣୀ ଓ ସେମାନଙ୍କ ଆବାସସ୍ଥଳୀର ସୁରକ୍ଷା ଓ ସଂରକ୍ଷଣର ସଫଳତା ପାଇଁ ବ୍ୟାପକ ଜନସଚେତନତା ଲୋଡ଼ା । ସୁତରାଂ, ବନ୍ୟପ୍ରାଣୀ ସପ୍ତାହ ପାଳନ ଅବସରରେ ବନ୍ୟପ୍ରାଣୀଙ୍କ ସଂରକ୍ଷଣ ପାଇଁ ଆମେ ସମସ୍ତେ ଅଙ୍ଗୀକାରବଦ୍ଧ ହୋଇ ଅକୃଷ୍ଣ ସହଯୋଗ ପ୍ରଦାନ କରିବାକୁ ମୁଁ ଆହ୍ୱାନ ଜଣାଉଛି ।

*ବିକ୍ରମ କେଶରୀ ଆରୁଖ*  
 (ବିକ୍ରମ କେଶରୀ ଆରୁଖ)





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## FOREWORD

Conservation of Wildlife has become a major challenge on the face of the human being's greed to apportion wildlife habitats for its developmental needs. Fragmentation of habitats is forcing wild animals to adapt unnatural habitats or face the peril of extinction, which in turn is leading to intense man-animal conflict. Wildlife is a biological community of interacting organisms and their physical environment. No individual entity can survive in isolation. The carnivores prey on the herbivores, the herbivores graze in grassland or browse shrubs and plants, the scavengers clean up the mess and the habitat remains healthy. Human intervention to usurp plains that support grasslands breaks the food chain and disturbs the balance. Ironically, conservation of forest ecosystem is essential for the very existence of human being as it provides oxygen and water. Therefore, *in-situ* conservation of wildlife and its habitat is no charity towards wildlife but a necessity. *Ex-situ* conservation is also very important for threatened and endangered wildlife.

With this in view, Wildlife Organization is taking a slew of *in-situ* and *ex-situ* measures for conservation. Handling of man animal conflict is also a major challenge before it. Recently, it has focused its attention on community based ecotourism for promoting nature education and soliciting cooperation of forest dwellers.

Besides presenting a snapshot of the wildlife resources of the State, 'The Wildlife Odisha – 2016' also compiles Wildlife organization's recent major conservation interventions and their impact. It also highlights some fresh and exemplary efforts from individuals in the field of wildlife conservation, which have been duly recognized by bestowal of the prestigious "Biju Patnaik Wildlife Conservation Award".

Siddhanta Das





Baya weaver nest, Ghumsur North Forest Division





## INTRODUCTION TO THE STATE OF ODISHA

The State of Odisha has a geographical area of 1, 55,707 sq. km. The recorded forest area is 58,136 sq.km as per the State of Forest Report (SFR-2015) of Forest Survey of India. The State is quite rich in wildlife. The important wildlife found in state are Elephants, Tigers, Leopards, Hyena, Jungle cats, Sambar, Spotted deer, Wild boar, Giant squirrels, Pea fowl, Hill myna, Marsh Crocodile, Gharial, Salt water Crocodile, King Cobra, Sea turtles and Monitor lizard etc. To provide protection to wildlife and their habitat, a network of protected areas have been constituted. Special programmes have been initiated for special care of endangered and threatened species.

The State has 19 Sanctuaries including Gahirmatha Marine Wildlife Sanctuary, one National Park (Bhitarkanika), one proposed National Park (Similipal) which have been notified under the provisions of Indian Wildlife (Protection) Act, 1972 for in-situ conservation. These Protected Areas constitute 10.37% of the total forest area and 5.36% of the total geographical area of the State. One large Zoological Park (Nandankanan), two Small Zoos and 8 Mini Zoos have been notified for ex-situ conservation and management of wildlife out side protected areas. The State has the singular distinction of having three stretches of mass nesting beaches of endangered Olive Ridley Sea turtles including the world's largest nesting ground of Olive Ridley Sea turtle, *Lepidochelys olivacea* at Gahirmatha. It has many natural wetlands including the largest wetland of Asia (Chilika) and Bhitarkanika which are declared as "Ramsar Sites".

### The Wildlife Diversity of Odisha

A total of 27 species of amphibians, 131 species of reptiles including three crocodilian species, 479 species of birds and 87 species of mammals have so far been recorded in the State which include 54 species of threatened animals (17 species of reptiles, 15 species of birds and 22 species mammals) as per the definition of IUCN Red Data Book. The state is blessed with an extremely rich and unique assemblage of wildlife, inhabiting their respective habitats spread over three different bio-geographic zones.

For captive and rescued animals provision of ex-situ conservation has been made. Various developmental project and mining etc are creating disturbances for wildlife and their habitat leading to man-animal conflicts. Hence habitat fragmentation and the ensuing human-animal conflicts are some of the major challenge before the Wildlife Organization.







### Odisha Forest at a Glance:

FOREST TYPES	AREA
Reserve Forest	26,329 sq km
Protected Forest	15,525 sq km
Other Forest	16,282 sq km
Total Recorded Forest Area	58,136 sq.km
Percentage of recorded forest to geographical area	37.34%
Of India's Forest Area	07.60%
FOREST COVER WITH GREEN WASH	
Very dense forest cover	6,763 sq.km
Moderately dense	19,791 sq.km
Open forest	17,389 Sq.km
Total	43,943 sq km
FOREST COVER OUTSIDE GREEN WASH	
Very dense forest	260 sq km
Moderately Dense Forest	1,679 sq km
Open Forest	4,472 sq km
Total	6,411 sq km
MANGROVE COVERS	
Very dense mangrove	82 sq.km
Moderately dense mangrove	95 sq.km
Open mangrove	54 Sq.km
Total	231 sq km

*\*FSI Report 2015*

### Biodiversity Comparison (MoEF report, ZSI-2015)

NUMBER OF SPECIES				
TAXA	WORLD	INDIA	ODISHA	PERCENTAGE OF ODISHA TO INDIA
Mammals	5416	423	87	21%
Birds	9026	1234	479	39%
Reptile	9232	530	131	25%
Amphibians	6776	371	27	09%
Fish	32156	3092	600	19%

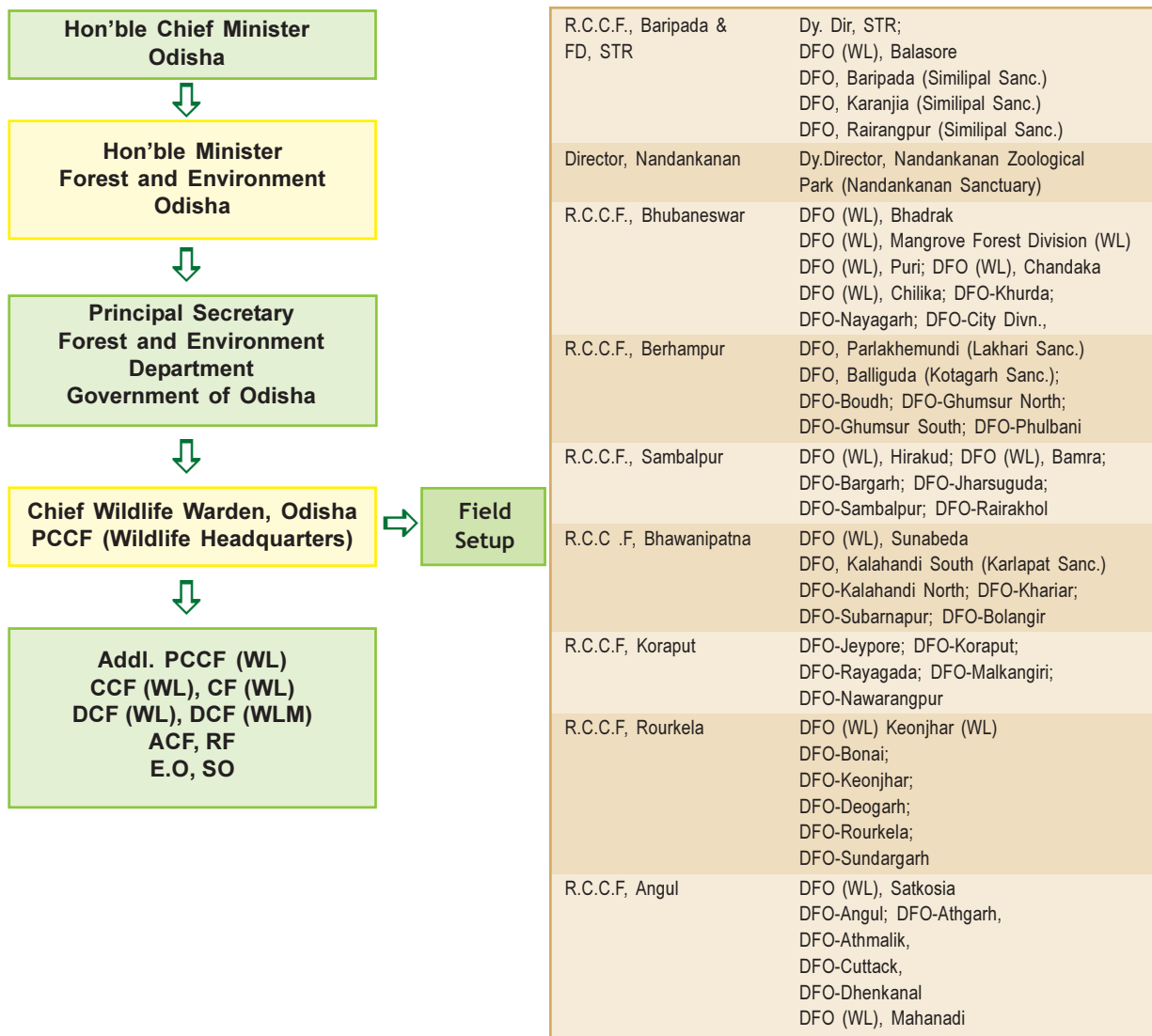




## About Wildlife Organisation

The State Wildlife Organization was formed on 14<sup>th</sup> August 1974, a sequel to adoption of the Wildlife (Protection) Act, 1972; and promulgation of the Wildlife (Protection) (Odisha) Rules, 1974. The Conservator of Forests, Development Circle was designated as the Ex-Officio Chief Wildlife Warden, Odisha. In the year 1976, a separate Wildlife Organization was constituted with the Chief Wildlife Warden posted in the rank of Conservator of Forests, to begin with.

The present Wildlife Organization is headed by Principal Chief Conservator Forest (Wildlife) and is assisted by Addl. Principal Chief Conservator of Forests (Wildlife) and two Deputy Conservator of Forests in the Headquarters and the Field Director, Similipal Tiger Reserve, Director, Nandankanan Biological Park, 12 Divisional Forest Officer/Deputy Conservators of different Divisions and two Deputy Directors i.e Similipal Tiger Reserve and Nandankanan Zoological Park in the field. All the RCCFs in charge of circles and all the DCFs in charge of 37 territorial divisions and 13 Wildlife Divisions function as Wildlife Wardens under Wildlife (Protection) Act, 1972.







### A quick glance on wildlife status of Odisha....

National Park	: 1 (Bhitarkanika)
Proposed National Park	: 1 (Similipal)
Sanctuary	: 19
Total area of Sanctuaries and National Parks (Protected area)	: 8351.31 sq.km
Percentage of Protected area to geographical area of the state	: 5.36%
Percentage of protected area to forest area	: 10.37%
Tiger Reserve (s) Notified	: 2 (Similipal and Satkosia)
Proposed Tiger Reserve	: 1 (Sunabeda)
Elephant Reserves	: 3 (Mayurbhanj, Sambalpur and Mahanadi)
Biosphere Reserve	: 1 (Similipal)
Ramsar sites	: 2 (Chilika and Bhitarkanika)
Eco-sensitive Zones finally notified	: 2 (Kapilash and Bhitarkanika)

### Crocodilian Research & Conservation Centres:

(1) Tikarpada/Satkosia	- Gharial
(2) Dangmal/Bhitarkanika	- Saltwater crocodile
(3) Ramatirtha/Similipal	- Mugger crocodile
(4) Nandankanan	- Captive Breeding programme for all the three Indian crocodilian species
Mass Nesting beaches of Olive Ridley Sea turtles	- 3 (Gahirmatha, Rushikulya river mouth, Devi river mouth)
Community Reserve (Proposed)	- Balipadar-Bhetnoi Blackbuck habitats in Ganjam District.

### The State Icons...

<b>State Tree</b>	- Kadamba ( <i>Neolamarckia cadamba</i> )
<b>State Flower</b>	- Ashoka ( <i>Saraca asoca</i> )
<b>State Animal</b>	- Sambar ( <i>Rusa unicolor</i> )
<b>State Bird</b>	- Indian Roller ( <i>Coracias benghalensis</i> )
<b>National Heritage Animal</b>	- In October, 2010, Indian Government declared the Elephant an National Heritage Animal.
<b>National Animal</b>	- The Tiger was accorded the status of National Animal in 1973 with the initiation of Project Tiger, a National Tiger protection programme. Before this, the National Animal was Lion.
<b>National Aquatic Animal</b>	- Gangetic Dolphin was declared as the national aquatic animal in October 2010.







## **WILDLIFE CONSERVATION IN THE STATE**

Wildlife conservation is the practice of protecting the wildlife along with animals their habitat. It has become an increasingly important practice in order to the mitigate the negative impact of human activity on their habitat. The major objectives of wildlife conservation are

1. Maintenance of essential ecological processes and life support systems.
2. Preservation of genetic i.e. Diversity that is flora and fauna.
3. Sustainable utilization of species and ecosystem.

The strategies of Wildlife Conservation include in-situ and ex-situ conservation.

### **In-situ conservation**

In-Situ conservation is on-site conservation or the conservation of genetic resources in natural population of plants or animal species in a habitat as well as to ensure the ongoing process of evolution and adaptation with in their environment.

### **In-situ conservation areas**

In the State of Odisha, the in-situ conservation is achieved in the following forms:-

- a) Though the legal entities or protected areas like National Parks and Sanctuaries.
- b) Through other Protected landscapes like Tiger Reserves, Elephant Reserves and Biosphere Reserves



Brown-winged King Fisher in Bhitarkanika National Park





a) Protected Area (PAs) network in Odisha comprises of:

There are 2 National Parks (1 proposed), 19 Wildlife Sanctuaries, 2 Tiger Reserves, one proposed tigers reserve and 1 Biosphere Reserve in Odisha. These constitute 5.36 % of geographical area and 10.37 % of forest area in the state. These lie in two Biogeographic zones and three provinces as given below:

Bio-geographic Zones / Province / Sub-Division and Location of Sanctuaries in Odisha

Zone	Province	Sub-Division	Sanctuary located in this region
Deccan Peninsula	Eastern Plateau	Eastern-ghat	Baisipalli, Chandaka, Karlapat, Kotagarh, Lakhari, Nandankanan
		Chhatisgarh-Dandakaranya	Debrigarh, Sunabeda
	Chhota-nagpur	Garhjat Hills	Badrama, Hadgarh, Khalasuni, Kuldih, Satkoshia, Similipal, Kapilash
Gangetic Plain	Lower Gangetic plain		
Coasts	Eastern Coast		Balukhand, Bhitarkanika, Gahirmatha, Nalabana

## A. List of National Parks and Sanctuaries of Odisha

### National Parks

Sl. No.	Protected Area	Area in Sq.km	Notification No. and Date	Administrative control (Division / Circle)	District
1	Bhitarkanika (National Park)	145.00	22904 / Dt.30.10.1988 19686 / Dt.16.9.1998 (Final)	DFO, Mangrove Forest Division (WL), Rajnagar / RCCF, Bhubaneswar Circle	Kendrapara, Bhadrak
2	Similipal National Park (Proposed)	845.70	18703 Dt.6.8.1980 & 19525 Dt.11.6.1986	Field Director, STR, Baripada	Mayurbhanj

Flamingoes, Chilika

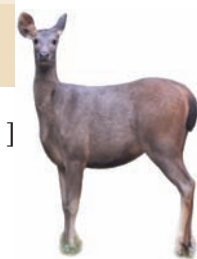




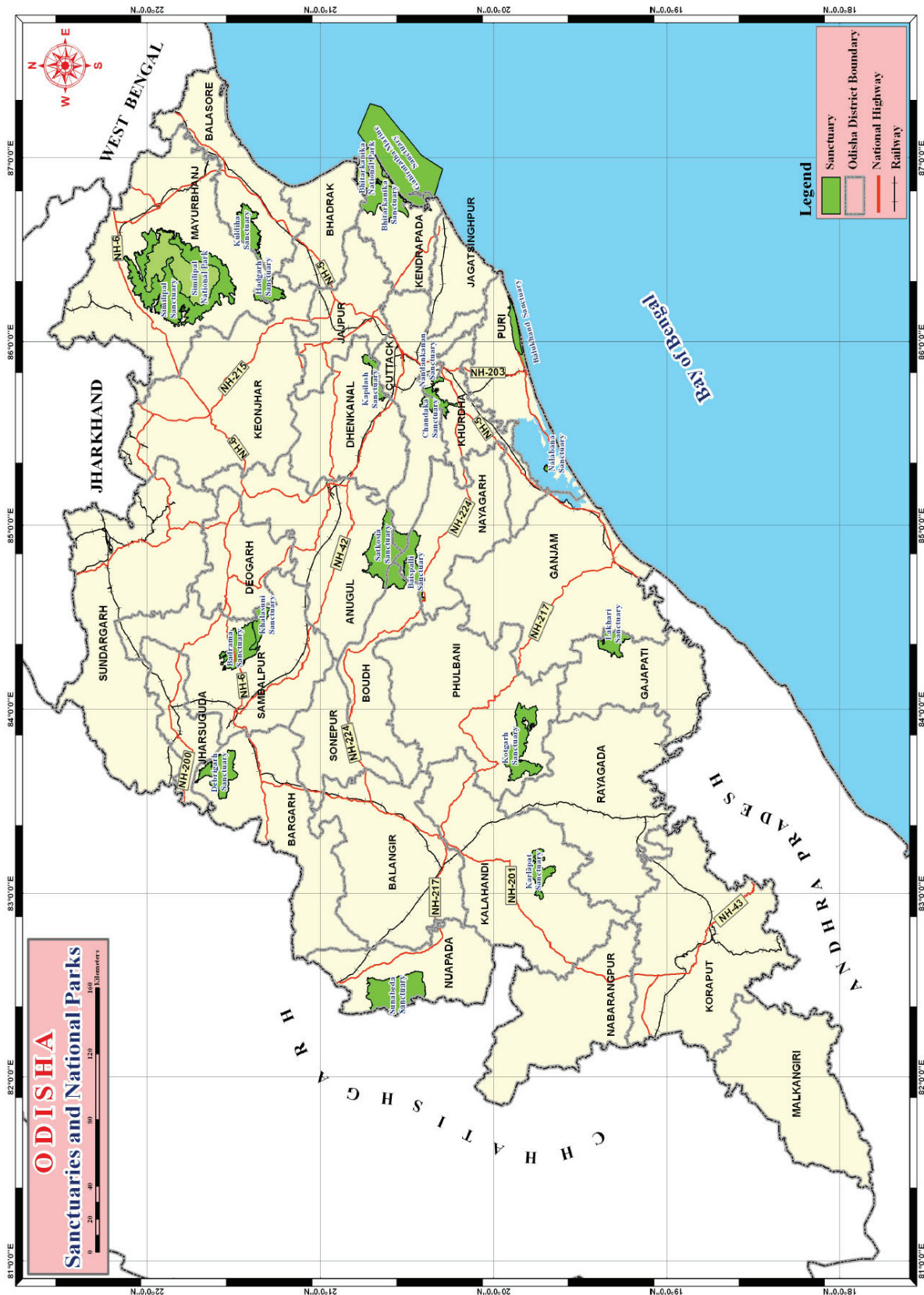


## Wildlife Sanctuaries

1	Bhitarkanika	672	6958 Dt. 22.4.1975	DFO, Mangrove Forest Division (WL), Rajnagar / RCCF, Bhubaneswar Circle	Kendrapara
2	Balukhand-Konark	71.72	9013 Dt.23.4.1984 & 15216 Dt.1.9.1987	DFO, Puri, Khurda / RCCF, Bhubaneswar Circle	Puri
3	Baisipalli	168.35	25335 Dt.06.05.1981	DFO, Mahanadi WL Division, Nayagarh / RCCF, Angul circle	Nayagarh
4	Badrama	304.03	23393 Dt.17.12.1987	DFO, Bamra(WL), Sambalpur / RCCF, Sambalpur circle	Sambalpur
5	Chilika (Nalban)	15.53	23403 dt.17.12.1987	DFO, Chilika WL Division, Balugaon / RCCF, Bhubaneswar Circle	Puri
6	Chandka-Damapara	193.39	35500 dt.21.12.1982 13482 dt.10.6.1988	DFO, Chandka Wildlife Division, Bhubaneswar / RCCF, Bhubaneswar Circle	Khurda, Cuttack
7	Debrigarh	346.90	2409 dt. 8.2.1985	DFO, Hirakd WL Division, Sambalpur / RCCF, Sambalpur circle	Sambalpur
8	Gahirmatha (Marine)	1435.00	18805 dt.27.9.1997	DFO, Mangrove Forest Divn (WL), Rajnagar / RCCF, Bhubaneswar Circle	Kendrapara Bhadrak
9	Hadgarh	191.06	34113 dt.6.12.1978	DFO, Keonjhar (Wildlife) / RCCF, Rourkela Circle	Keonjhar
10	Khalasuni	116.00	584 dt.7.1.1982	DFO, Bamara (WL) / RCCF, Sambalpur circle	Sambalpur
11	Kuldiha	272.75	243 dt.4.1.1984	DFO, Balesore (WL) / RCCF, Baripada Circle	Balasore
12	Nandankanan	4.37	20682 dt.3.8.1979	Deputy Director, Nandankanan /Director, , BBSR	Khurda
13	Similipal	2306.61	6484 dt.23.04.2008	DFO, Baripada / Karanjia / Rairangpur RCCF, Baripada Circle	Mayurbhanj
14	Satkosia Gorge	795.52	12727 dt.19.5.1976	DFO, Satkosia Wildlife Division, Angul / RCCF, Angul Circle	Angul
15	Sunabeda	600.00	10772 dt. 10.5.1988	DFO, Sunabeda Wildlife Division, Nuapada / RCCF, Bhawanipatna Circle	Nuapada
16	Karlapat	147.66	24498 dt.15.10.1992	DFO, Kalahandi (South) / RCCF, Bhawanipatna Circle	Kalahandi
17	Lakheri-Valley	185.87	2333 dt.8.2.1985	DFO, Parlakhemundi / RCCF, Berhampur Circle	Ganjam (Gajapati)
18	Kotgarh	399.05	30253 dt.3.12.1981	DFO, Baliguda / RCCF, Berhampur Circle	Kandhamal
19	Kapilash	125.5	5937 dt.2.4.2011	DFO, Dhenkanal / RCCF, Angul Circle	Dhenkanal











## b) Other Protected landscapes of Odisha are:

### Tiger Reserve

Sl No.	Protected Area	Area in Sq.Km.	Notification No. and Date	District
1	Similipal Tiger Reserve	2750.00 sq.km	Notification No.8F(T)-9 /2007/20801/F&E Dated 31.12.2007	Mayurbhanj
2	Satkosia Tiger Reserve	963.87 sq.km	Notification No.8F(S)-32 /2006/20807/F&E, Dated 31 <sup>st</sup> December 2007	Angul, Cuttack, Nayagarh and Boudh

### Elephant Reserve

1	Mayurbhanj Elephant Reserve	7043.74 Sq.Km.	Notification No.8F(W)-42 /2001/15806 Dated 29.09.2001	Mayurbhanj, Balasore, Bhadrak, Keonjhar (part)
2	Mahanadi Elephant Reserve	1038.30 Sq.km	Notification No.8F(W)-17 /2002/10162 Dated 19.06.2002	Angul, Cuttack, Nayagarh, Dhenkanal, Kandhamal
3	Sambalpur Elephant Reserve	426.91 Sq.Km	Notification No.8F(W)-10 /2002/5840 Dated 27.03.2002	Sambalpur, Sundargarh (part), Jharsuguda (part)

### Biosphere Reserve

1	Similipal Biosphere Reserve	5569 sq.km	Notification No.8/96 /11319/ Dated 20.05.1996	Mayurbhanj District
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Meghasini, Similipal Tiger Reserve





## A. TIGER RESERVE

Tiger Reserves are visualized as breeding nuclei from which surplus tiger would migrate to adjacent forests. Conceived under the Project Tiger launched in 1973, these areas aim to conserve the habitat for ensuring a viable population of Royal Bengal Tigers along with their prey base in their habitat.

### SIMILIPAL TIGER RESERVE:

Mayurbhanj District holds about most of the tiger population of the state. Less than thirty tigers were surviving here in the year 1975. Sustained protection measures and management initiatives have resurrected the dwindling population of tigers. Recent census of tigers conducted by the use of both pugmark and camera trap techniques in the year 2016 shows presence of 29 tigers. Similipal is the only place in the world that houses the source population of melanistic tigers. Most of the tigers from North Similipal are moving to south Similipal that remains a better habitat, and the leopards, more adaptable than the tiger, are appearing in most of the habitats vacated by the tiger. These observations suggest that Similipal habitat may be reaching the maximum of its carrying capacity for tiger. The future seems dependent on adjoining forests of Hadgarh and Kuldiha that are better known as elephant habitats.

Tiger is only an indicator species but the project in Similipal has provided incidental conservation to the entire biota contained in these forests. The giant squirrel (*Ratufa indica*) of the upper tree canopy, the mugger crocodile (*Crocodylus palustris*) in the rivers of Similipal, and the 94-species of orchid flora are only a few that 'indicate' the positive impact of Project Tiger on the health of the ecosystem, and the prevailing microclimate of Similipal.

Major threats to Similipal centre round four lakh people living in the periphery and ten thousand people living inside it. Most of them 'use' Similipal to make a living, and the population continues to rise at a rate of 20% for each decennial period. Similipal presents an accurate reflection of the declining status of a habitat in the face of growth of human population. However major success has been achieved in minimizing the age old practice of "Akhand Shikar" prevalent among the local tribal community through organization of archery competitions with lucrative prize system.

### SATKOSIA TIGER RESERVE:

Encompasses the Satkosia Gorge Sanctuary constituted in May 1976 and the Baisipalli Sanctuary constituted in November 1981. The Tiger Reserve is rich in large cats and their prey along with wetland fauna (Gharial, Mugger, freshwater turtles, etc.) in the Mahanadi and rich biodiversity in the terrestrial ecosystem.

The Tiger Reserve is located in the Central Zone of Odisha and spreads over Angul, Cuttack, Nayagarh and Boudh districts covering an area of 963.87sq.kms and comprises of Moist Deciduous Forests, Dry Mixed Deciduous Forest, Bamboo Brakes, Dry Tropical Riparian Forest and Teak Plantations.







Satkosia Gorge is the home of the most endangered Gharial (*Gavialis gangeticus*), the Mugger crocodiles (*Crocodylus palustris*) and a variety of freshwater turtles. Other faunal elements include Leopard, Wild dog, Gaur, Nilgai, Sambar, Spotted Deer, Barking Deer, Bear, Ratel, Jackal, Porcupine, Indian Hare, and Giant Squirrel etc. A viable but stabilized population of about 155 elephants thrives in this region which forms a part of the Mahanadi Elephant Reserve.

Both the resident as well as migratory birds are found in this sanctuary. The resident birds include the Hornbills, Peafowl, Kingfishers, Egrets, Cormorants, River Tern, Owls, Pigeons, Myna, Parakeets, Drongo, Doves, Woodpecker, Gulls, Golden Oriole, Vultures, Babblers, Barbets, Minivets, Sun Bird, Eagle, Crow Pheasants etc. The migratory birds include Brahminy Ducks, Bar Headed Geese etc. Recently the high vulnerable species of Indian Skimmers flocks have also been noticed in the area.

## **B. ELEPHANT RESERVE (ER) NETWORK**

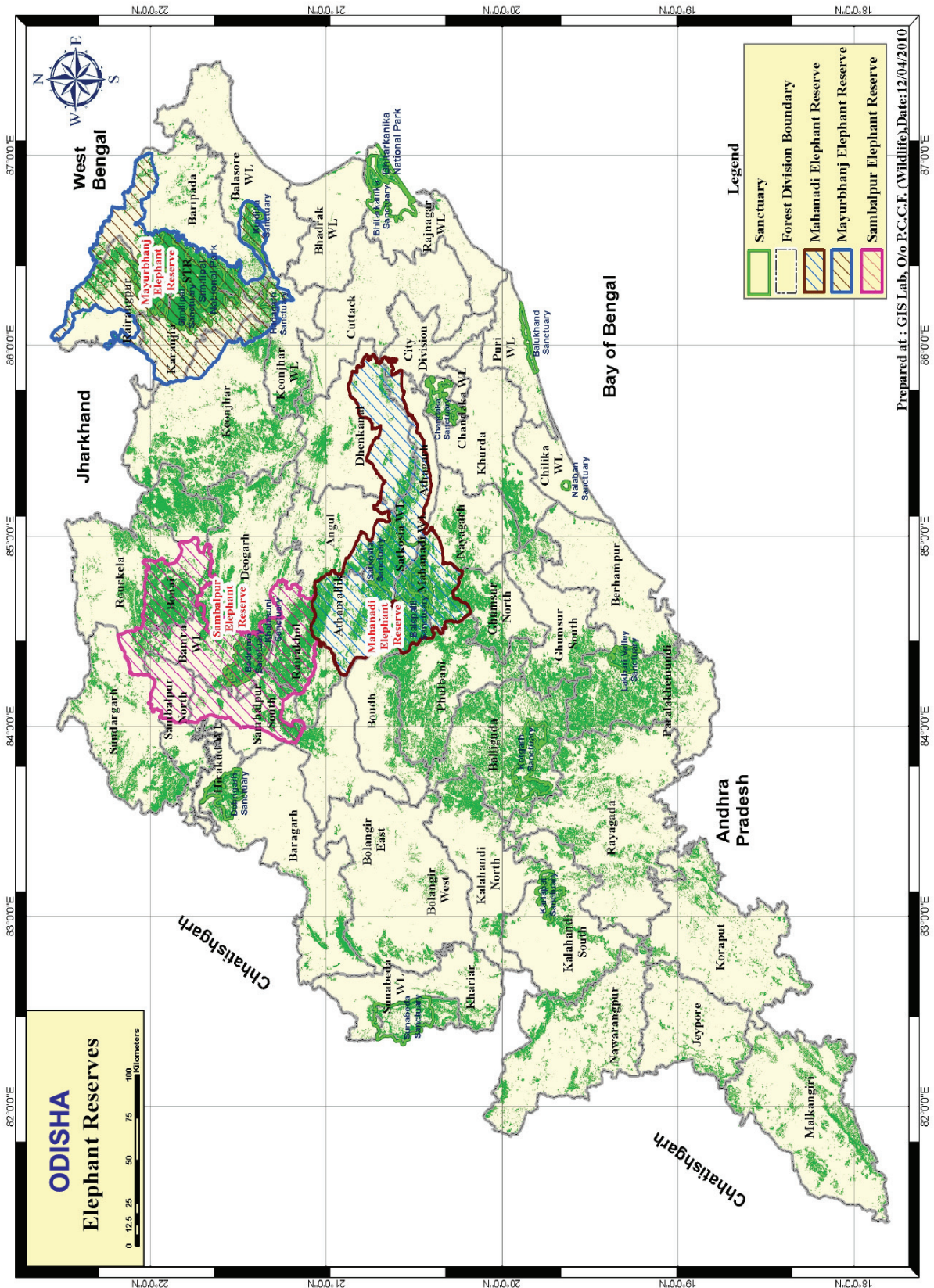
“Because the elephant requires much larger home range than any other terrestrial animal, it is usually one of the first species to suffer the consequences of habitat fragmentation and destruction.” Elephant Reserves offer hope to rejuvenate some of the fragmented habitats.

In the state of Odisha, where many forest habitat are shared by the tiger and elephant, the establishments of ERs have raised the hope to unify fragmented tiger habitats as well.

Three Elephant Reserves (ERs) namely the Mayurbhanj ER, Mahanadi ER and Sambalpur ER have been notified by the State of Odisha to conserve prime elephant habitats and to launch various management interventions. The extent of notified and proposed forest blocks in these three reserves is 4129 sq. km, and the geographical area covered by these three reserves is 8509 sq. km. In order to (a) include most of the remaining important elephant habitats within ERs, (b) redress the problem of rising number of cases of elephant depredation and (c) reverse the trend of habitat fragmentation and degradation, it is proposed (i) to expand the area of Mahanadi and Sambalpur ERs, and (ii) to constitute two new ERs called the Brahmani-Baitarani ER and the South Odisha ER. After declaration, the forest area comprised within ERs will be about 25% of the total forest area of the state; and about 90% of the elephants will be within these Reserves.



Herd of Elephants, Similipal







### Mayurbhanj Elephant Reserve

(Constituted: September 2001)

#### Location

- Districts** : Portions of Mayurbhanj, Balasore, Bhadrak and Keonjhar
- Forest Divisions** : Similipal Tiger Reserve, Karajia, Baripada, Rairangpur, Balasore WL, Keonjhar WL Division
- Latitude North** :  $21^{\circ} 10'$  to  $22^{\circ} 35'$
- Longitude East** :  $85^{\circ} 45'$  to  $87^{\circ} 05'$
- Area** : 7043.74 sq. km

### Mahanadi Elephant Reserve

(Constituted: June, 2002)

#### Location

- Districts** : Angul, Cuttack, Nayagarh, Kondhmal, Dhenkanal
- Forest Divisions** : Portions of Angul, Athagarh, Cuttack, Nayagarh, Boudh and Dhenkanal, and entire Satkosia Wildlife Division, Mahanadi Wildlife Division and Athamallik Forest Division.
- Latitude North** :  $20^{\circ} 10'$  to  $21^{\circ} 5'$
- Longitude East** :  $84^{\circ} 15'$  to  $85^{\circ} 58'$
- Area** : 1038.30 sq km

### Sambalpur Elephant Reserve

(Constituted: March 2002)

#### Location:

- Districts** : Sambalpur, Sundargarh, Jharsuguda
- Forest Divisions** : (Parts) of Bamra (Wildlife), Bonai, Sambalpur, Jharsuguda, Rairakhol.
- Latitude North** :  $20^{\circ} 5'N$  and  $22^{\circ} 12'$
- Longitude East** :  $83^{\circ} 13'E$  and  $84^{\circ} 58'$
- Area** : 426.91 sq km





## C. BIOSPHERE RESERVES

Biosphere Reserve is intended to preserve genetic diversity in representative ecosystems and provide opportunities for research on ecosystem processes in nature. Criteria for selection of Biospheres include representativeness, naturalness, biological diversity and potential as effective conservation unit.

### Similipal Biosphere Reserve

Similipal and adjoining area comprising of 5569 sq.km. was declared as a Biosphere Reserve by Government of India on the 22<sup>nd</sup> June, 1994 with the objectives of

- (a) Conservation of the area as a representative ecosystem of the “Mahanadian Bio-geographic Region”.
- (b) Provision of long term in-situ conservation of genetic diversity
- (c) Promotion of basic and applied research and monitoring; and
- (d) Dissemination of experience for education and training.

Similipal Biosphere Reserve is intended to fulfill three basic objectives:

- Conservation of biodiversity (genetic, species and ecosystem diversity) and landscapes.
- Eco-development of villages and human habitations within the biosphere; (improvement of livelihood and income opportunities for them villagers in the immediate vicinity of Similipal, while reducing or eliminating adverse impact on the ecosystem resources of Similipal.
- Provide the base and benchmark for long term ecological studies, environmental education, and research into local, national and global issues of conservation and sustainable development.

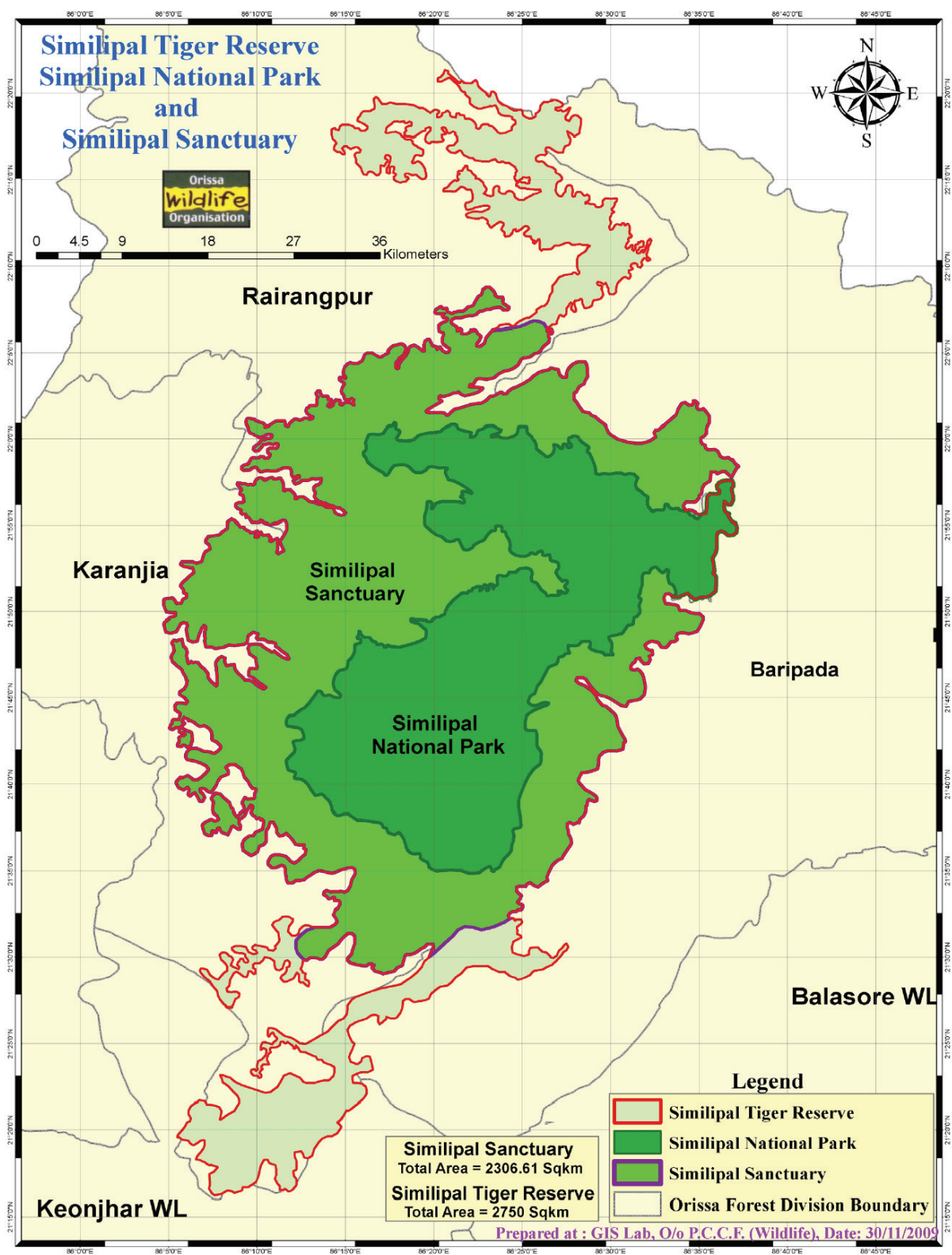
These functions / objectives find expression in the Zonation of the Biosphere into core, buffer and transition areas.

### Statistics about Similipal Biosphere Reserve

A	Area of Biosphere Reserve	5569 sq.km
B	Zonation	
	(i) Core area	845 sq.km
	(ii) Buffer area	2129 sq.km
	(iii) Transition area	2595 sq.km
C	Villages	
	(i) No. of Villages in the Core area	3
	(ii) No. of villages in the Buffer area	61
	(iii) No. of villages in the Transition area	1200
D	Population	3.5 lakh
	(i) Tribal population	73.44%
	(ii) SC population	5.21%
	(iii) Other population	21.35
E	Common Tribes: Bhunjia, Bathudi, Kolha, Ganda, Santhal, Khadia, Mankadia	









## **D. ELEPHANT CORRIDORS IN ODISHA**

Elephants are large migratory animals and move a long distance in search of food and require substantial areas to support its ecological needs. But habitat loss, expansion of human habitation and fragmentation of traditional elephant corridors has forced the elephants to split into a number of meta- populations or herds and move to new areas in search of food and shelter. As a result the interface of elephant and man has increased manifold. This results in conflicts with human being due to elephants raiding or destroying crops. As retaliation is villagers, kill elephants, either by electrocution or poisoning.

In order to protect the animals and their habitat there is a need to connect these fragmented patches of forest, which is called a corridor. This corridor will not only help the animals move without any disturbances, but also increase the chance of exchange of genetic diversity interchange. As the risk of inbreeding within the localized patch of forest is reduced there will be a healthy population.


Traditionally fourteen corridors have been identified in the State based on the available movement data of elephants during the course of their migration. These corridors need to be protected. Human centric land use like settlements, roads, railway line, electric lines, canal and mining etc are the main cause of corridor fragmentation.

For preparation of Corridor Management Plan, survey of each of the fourteen corridors has been done by the DFOs in the field. First task in this regard has been to know the extent of width of corridors. Generally the areas around the old corridor up to which elephants have reached during recent past has been tentatively taken as width of the corridor after due rationalisation to see the extent of problem faced while securing the corridor. Then along this width, broad land use survey has been done using Satellite imageries and ground truthing. Demographic survey has also been done to know the number of village population along with other administrative units like Name of district, Thana and Tehsil covering the area etc. House hold survey has not been taken up at this stage.

Due to fragmentation of traditional Corridors and degradation of habitat these elephants are in search of new habitat and corridors. Presence of elephants has been noticed in places where elephants have never been found before. It is noticed that few elephants are using new corridors. To assess these new corridors, Government had engaged an expert Shri Kishor Choudhary to identify new corridors. He identified 9 new corridors. Its detailed survey is yet to be conducted and these 9 new corridors are not part of the Management Plan. The Plan covers only 14 traditional corridors:

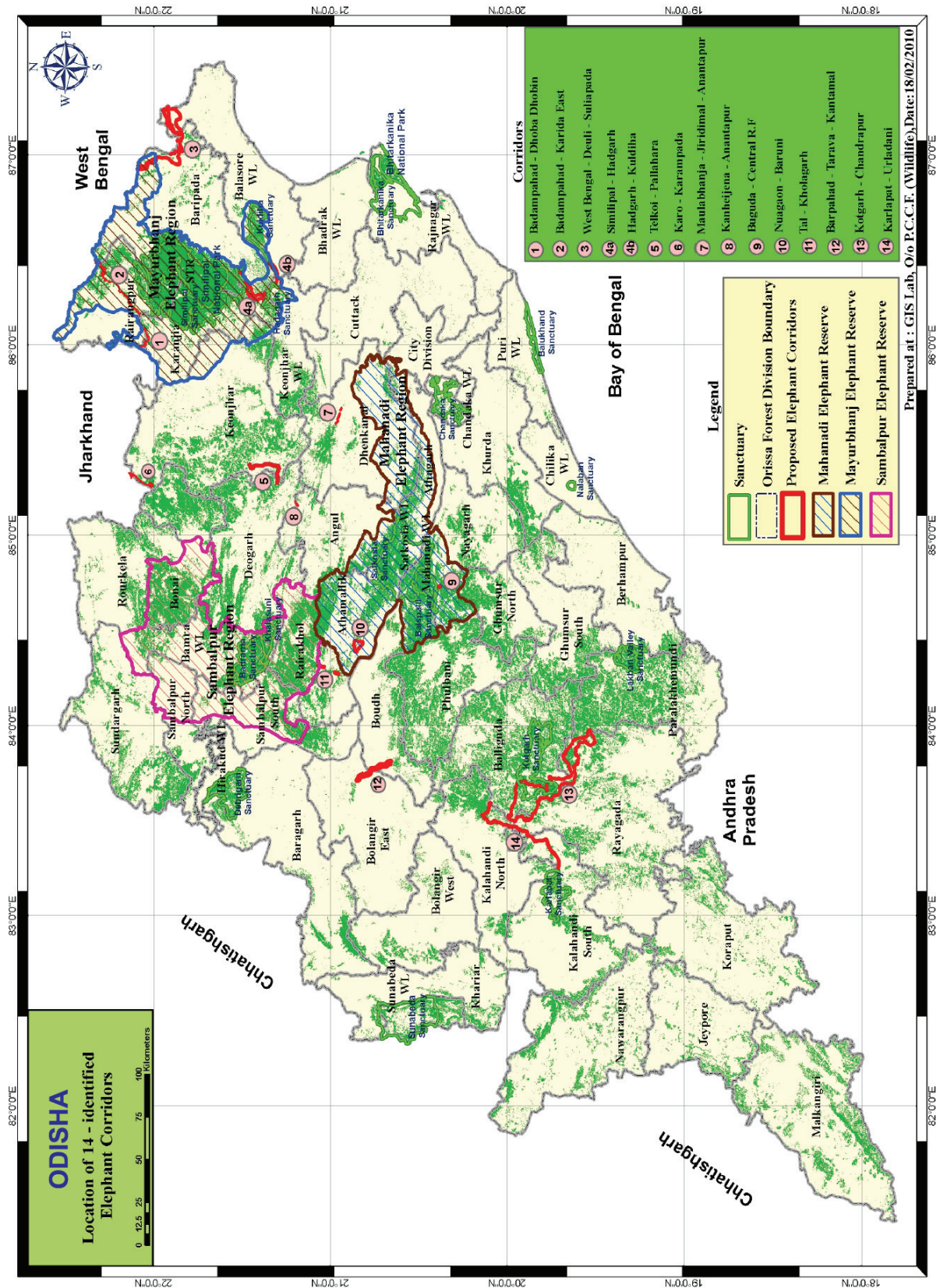






SL No.	Name of the Corridor	Extends over District	Name of the Division	Length of the corridor km	Width of corridor km	Total area Sq km
1	Badampahar (Mayurbhanj)-Dhobadhobin (Jharkhand) INTERSTATE	Mayurbhanj	Karanjia, Rairangapur	16	0.5-1.5	24.3
2	Badampahar (Mayurbhanj)-Karida (Jharkhand) INTERSTATE	Mayurbhanj	Rairangapur	43	0.2-2.6	26.09
3	W. Bengal-Deuli- Suliapada (Passage) INTERSTATE	Mayurbhanj, Balasore (West Bengal)	Baripada	72	0.1-0.7	39.5
4	Similipal-Hadagarh-Kuldiha INTER-DISTRICT	Mayurbhanj; Keonjhar; Balasore	Baripada, Balasore WL, Keonjhar WL	41.7	0.7-3.5	91.39
5	Telkoi-Pallahara INTER-DISTRICT	Keonjhar; Angul	Keonjhar, Deogarh	30.4	0.2-0.6	13.24
6	Karo (Keonjhar)-Karampada (Saranda, Jharkhand) INTERSTATE	Keonjhar; (Jharkhand)	Keonjhar	15	0.3-2.3	17.3
7	Maulabhanja – Jiridamali-Anantapur INTRA-DISTRICT	Dhenkanal	Dhenkanal	6.5	0.25-0.28	1.55
8	Kahneijena-Anantapur INTER-DISTRICT	Angul; Dhenkanal	Angul	6.6	0.4-1.1	5.22
9	Buguda-Central RF INTRA-DISTRICT	Nayagarh	Nayagarh	2.6	0.8-0.6	0.76
10	Nuagaon-Baruni INTRA-DISTRICT	Angul	Athmallik	4.5	0.4-4.6	20.7
11	Tal-Kholgarh INTRA-DISTRICT	Sambalpur	Rairakhol	6.3	0.5-0.08	4.56
12	Barpahad-Tarava-Kantamal INTER-DISTRICT	Subarnapur, Boudh	Subarnapur, Boudh	24.2	0.38-1.5	21.7
13	Kotagarh-Chandrapur INTER-DISTRICT	Kandhamal; Rayagada	Balliguda, Rayagada	77	2.0-22.4	575.4
14	Karlapat-Uraladani INTER-DISTRICT	Kalahandi; Rayagada	Kalahandi(S), Kalahandi(N) Rayagada	75	0.2-0.5	28.9
				421		870.6









## **EX-SITU CONSERVATION AREAS**

Indian mythology, history and literature are replete with accounts of wild animals patronized by kings, emperors and nobles for work, warfare and entertainment. Scriptures also record the existence of a Deer Park where Lord Buddha gave his first discourse. In India, the zoo movement received an impetus after independence.

“Zoos” or “Zoological Gardens/Parks” possess and manage a collection primarily of wild (non-domesticated) animals. In the arena of wildlife conservation, zoos play a significant role. The zoos provide environmental education, eco-system awareness, and nature interpretation. They facilitate research on wild animals maintained in captivity and help in maintaining the gene pool of the critically endangered species. They also serve as rescue centres for straying wild animals rescued from near by human habitations.

Presently, there are one large Zoo, two small Zoos and eight Mini Zoos in the state that enjoy the reorganization from Central Zoo Authority(CZA). Nandankanan is the large Zoo. Two mini zoos have been upgraded to the status of small zoos are Wild Animal Conservation Centre (WAAC) at Motijharan in Sambalpur District, and Rourkela in Sundargarh District. The other Mini Zoos which are managed by Forest Department are Kuanria in Nayagarh District, Taptapani in Ganjam District, Papadahandi in Nawarangpur District, Harishankar in Bolangir District, Gharial Research and Conservation Unit at Tikarpada in Angul District and Kapilash in Dhenkanal District.

There are four Deer Park / Mini Zoos in the state that are owned by other agencies-Rourkela Small Zoo in Sundargarh District managed by SAIL, a Govt. of India PSU. Deer Park/ Mini Zoo at Bhanja Vihar, Berhampur University in Ganjam District, Mini Zoo, Sunabeda in Koraput District managed by Hindustan Aeronautics Limited (HAL) a Govt. of India PSU and Municipal Corporation Mini Zoo, Cuttack in Cuttack District. Currently the deer park at Berhampur University has been recognized by CZA and efforts are on for making due compliance for getting back the reorganization.

Zoos in India are regulated by Central Zoo Authority, Govt. of India under the provisions of Section-38H of the Wildlife (Protection) Act, 1972 (amended up to 2006) and are guided by the National Zoo Policy, 1998. The Government of India have formulated Recognition of Zoo Rules, 2009, and fixed standards and norms for management of Zoos in the country. Central Zoo Authority (CZA), which is a statutory body under the Ministry of Environment & Forests, Govt. of India oversees the functioning of Zoos in the country and provides technical guidance and assistance as assigned under Section 38C of the Wildlife (Protection) Act, 1972. The CZA also regulates minimum standards and norms for upkeep and health care of animals in Indian Zoos and controls mushrooming of unplanned and ill-conceived Zoos which used to crop up in the country as adjuncts to public parks, industrial complexes and waysides.





Standards and norms for animal maintenance, housing and health care need to be given due priority for ensuring quality life to captive animal of the zoo. For this purpose regulatory as well as monitoring mechanisms have been prescribed. State Wildlife Organization with financial and technical support from the Central Zoo Authority endeavors to maintain standards and quality of the Zoo Small and Mini Zoos of the state, so that the very purpose of operating Zoos is achieved.

### **NANDANKANAN ZOOLOGICAL PARK**

Nandankanan Zoological Park is one of the premier large Zoos of India located amidst a beautiful natural setting. Unlike conventional Zoos, it spreads over a vast 3.62 sq.km area of undulating topography with natural moist deciduous forest, water bodies and enchanting landscape that provides the Zoo inhabitants an appropriate ambience to live in harmony with the nature. The Zoological park is new a part of Nandankanan Wildlife Sanctuary

It was dedicated to the public on 29<sup>th</sup> December, 1960.

### **Mission**

To achieve the distinction of an outstanding Zoo through World Class Conservation, Education, Research and enriching visitor experiences by connecting people to wildlife and ex-situ conservation.

### **Nandankanan is known for:**

- Birth of white tiger from normal coloured parents in the year 1980. and Melanistic Tiger cubs in 2014
- White Tiger Safari established in 1991.
- First captive breeding programme for Gharial in 1980.
- First Indian Zoo to become a member of WAZA and to breed Rattle and Pariah Kite.
- Puri-New Delhi Superfast Express has been named as Nandankanan Express. Nandankanan is the first Zoo in the country after which an express train has been named.
- Second largest heronry of the State for Open-billed Storks (more than 12,000).
- Has a captive fodder farm (over 33 Acres) and a Slaughter house to cater to dietary needs of carnivorous Zoo animals.
- Has the largest pool for housing Gharials and Hippopotamus.
- Prioritizing awareness, education and training programmes on wildlife conservation and research.
- Nandankanan is not only a Zoo but also an ideal centre for research, education and ecotourism.

### **New Facility: Carnivorous Plant Garden:**

Carnivorous Plant Garden, established inside the State Botanical Garden, Nandankanan covering an area of 800sft intended to exhibit carnivorous plants of regional importance. The







exhibit will promote education and awareness among the visitors towards carnivorous plants and their conservation in general. Nandankanan Biological Park is first of its kind to display carnivorous plants. An amount of Rs 5 lakhs has been utilised under the scheme. This project was started during the month of September, 2015 and completed during the month of March, 2016. The garden has been developed to accommodate four (4) different species of Carnivorous plants such as Pitcher plant, Trumpet plant, Sundew and Venus fly trap with provision of naturalistic landscape and signage.

### **Import of animals:**

Two pairs of Grants Zebra and Two pairs of African Lion were imported from Tel-Aviv Zoo in Israel during September, 2015.

### **Exchange of animals:**

On 20<sup>th</sup> July 2016 two male and three female Dwarf Caiman, the smallest crocodilian species of the world were received from Madras Crocodile Bank Trust in exchange of one male and four female Water Monitor Lizards.

### **Infusion of wild blood line to captive tiger population:**

Two normal colour male tiger cubs are born on 20<sup>th</sup> April 2016 from a zoo born tigress Megha and the strayed wild tiger Nandan housed at Nandankanan. This breeding event resulted in infusion of wild blood line into the captive tiger population of Nandankanan, reducing their inbreeding depression.

### **Birth of melanistic tiger:**

Three tiger cubs were born from Sneha, the Dam and Manish, the Sire on 5<sup>th</sup> August 2016, one of which is melanistic. The same parent had given birth to two melanistic tiger cubs on their previous litter of four cubs.



Nandankanan



### A list of various Ex-situ Conservation Sites in the State of Odisha

Sl. No.	Name of the Zoo/ Mini Zoo	Location (Revenue district)	Present status / Notification No. and Date	CZA's approval valid up to:	Managed by
1	Nandankanan Zoological Park	Khurda	Large Zoo/Notification letter No. F NO. 19- 64/92- CZA (212) (Vol. VII) (M) / 3537 dated 11.9.13	30.09.2017	Director, Nandankanan Biological Park
2	Kapilash Deer Park/ Mini Zoo	Dhenkanal	Mini Zoo/Notification letter No - F.No.- 19-106/92- CZA (211) (M)/4100 dt 7.1.2014.	31.01.2016	DFO, Dhenkanal Division
3	Motijharan Deer Park (renamed as "Wild Animal Conservation Centre")	Sambalpur	Small Zoo/Notification letter No F.No. 19-3/93- CZA (201) (M)/463 dt. 15.3.2012	31.03.2016	DFO, Hiraakud Wildlife Division
4	Harishankar Deer Park	Bolangir	Mini Zoo/Notification letter No. F. NO. 19-1/93-CZA (194) (M)/3516 dt. 10.9.2013	30.09.2015	DFO, Bolangir Forest Division
5	Taptapani Deer Park	Ganjam	Mini Zoo/Notification letter No. F. NO. 19-107/92-CZA (196) (M)/3075 dt. 25.06.2013	30.09.2014	DFO, Paralakhemundi Division
6	Kuanria Deer Park	Nayagarh	Mini Zoo/Notification letter No. F. No.19-105/92-CZA (195) (M)/3518 dt. 10.09.2013	30.09.2015	DFO, Mahanadi Wildlife Division
7	Papadahandi Deer Park	Nabarangpur	(Mini Zoo)- Notification letter No. F. No. 19-112/92- CZA (197) (M)/801 dt. 17.10.2011	31.10.2014	DFO, Nabarangpur Division
8	Gharial Research and Conservation Unit (GRACU), Tikarpada	Angul	Notification letter No.- F. No. 19-46/93 -CZA (200) (NS)/ 6988 dt. 17.04.2015.	30.4.2017	DFO, Satkosia Wildlife Division
9	Deer Park, Berhampur University	Ganjam	letter No F. No. 19-103/93 CZA (198) (NA)/2376/dated 12.03.2013. Cancellation of Recognition communicated by CZA	31.03.2010	Berhampur University
10	HAL, Sunabeda Deer Park	Koraput	(Mini Category Zoo) Notification letter No - F. No. 19-42/93- CZA (209) (M)/ 3063 dt. 24.6.2013	30.09.2014	HAL, Sunabeda
11	Indira Gandhi Park Zoo and Deer Park, Rourkela.	Sundargarh	(Small Category Zoo) Notification letter No - 19-155/93 -CZA (199) (Vol. III) (M) / 4096 dt. 7.1.2014.	31.01.2017	SAIL, Rourkela
12	Municipality Deer Park, Cuttack	Cuttack	Notification letter No F. No. 19-206/93- CZA (204) (NS)/6970 dt. 17.4.2015	30.4.2017	Municipal Corporation, Cuttack







## **ACHIEVERS IN THE FIELD OF WILDLIFE CONSERVATION**

### **STATE LEVEL**

- The Govt. of Odisha vide their Resolution No. 14585-I-Affn-6/2012-F&E dt.03.08.2012 had approved the “Biju Patnaik Award for Wildlife Conservation” to be presented each year in the month of October at a State Level Function to recognize the contribution individuals/institutions for their contribution towards conservation of wildlife.
- This award is given every year to awards individuals or institutions operating in the State of Odisha and engaged in wildlife and biodiversity conservation, research and education. The award is given at the State as well as in the sub-Divisional level.
- The State level award consists of a certificate with cash award of Rs.2,00,000/- (Rupees two lakhs) only. Initially the cash award was Rs.50,000/-; subsequently enhanced to Rs.1,00,000/- and Rs.2,00,000/- during the year 2007 and 2009 respectively. The amount of cash award for sub-division level Biju Patnaik Award for Wildlife Conservation is Rs.5,000/-.

03 institutions and 12 individuals have been awarded with State Level Biju Patnaik Award for Wildlife Conservation during the 2005 to 2015.

### **THE AWARDEES OF PREVIOUS YEARS ARE AS FOLLOW:**



Biju Patnaik Award for Wildlife Conservation 2015

Shri Satrugna Rout for his sustained contribution for protection and conservation of wildlife who has played a vital role in providing valuable information for detection of wildlife offence cases and effecting seizure and recovery of ivory, skins of tiger and leopard around Similipal Tiger Reserve.





#### Biju Patnaik Award for Wildlife Conservation 2014

Prof. Priyambada Mohanty-Hejmadi for her life time sustained contribution towards Conservation of Wildlife, especially Olive Ridley Sea turtles & Estuarine Crocodile in the State.



#### Biju Patnaik Award for Wildlife Conservation 2013

Dr Lala Aswini Kumar Singh for his life time sustained contribution towards Conservation of Wildlife, especially crocodile, Tiger and Elephant etc.

Swaraj Kumar Kanhar for his life time contribution for wildlife conservation and protection in Odisha.







Biju Patnaik Award for Wildlife Conservation 2012

Shri Shyama Om Prasad Mishra-for his sustained contribution for conservation of House Sparrows with own initiatives at local level to build up its dwindling population in the State.



Biju Patnaik Award for Wildlife Conservation 2011

Dr. Lakshmi Narayan Acharjyo and Sri Prasanna Kumar Behera-for their life time contribution for wildlife conservation and protection in Odisha.





Biju Patnaik Award for Wildlife Conservation 2010

Sri Amarendra Lal Bose-for sustained campaigning in the print media over last forty years for conservation of wildlife, emphasising flora and fauna of Similipal.

Sri Saroj Kumar Patnaik-who made a mark nationally as a wildlife expert and a professional in the field of ex-situ management.



Biju Patnaik Award for Wildlife Conservation 2009

Dr Udaya Narayan Dev- for his sustained lifetime contributions in wildlife, particularly the birds of Odisha.

Dr Sundara Narayana Patro- for sustained life-time contributions and campaigner for the cause of conservation of wildlife and biodiversity of Odisha.

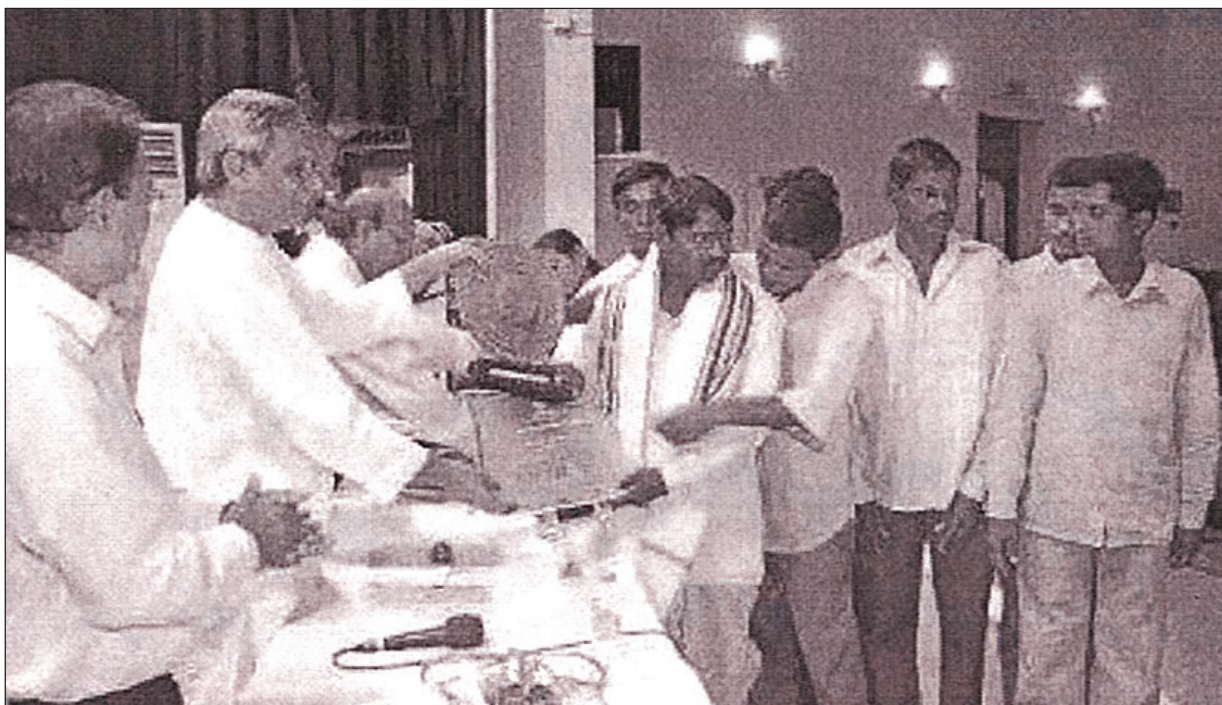






Biju Patnaik Award for Wildlife Conservation 2008

Prof. Basanta Kumar Behura-for sustained work for over sixty years on all faculties of wildlife science, i.e. Education, Research and Conservation.



Biju Patnaik Award for Wildlife Conservation 2007

Sri Sri Mahabir Pakshi Surakshya Samiti of Mangalajodi for taking exemplary initiatives for bird conservation in and around Chilika Lagoon.







Biju Patnaik Award for Wildlife Conservation 2006

The Peacock Protection Committee, Ganjam – for collective effort of villagers that have made the peafowl sustain and thrive in the Pakidi hill area.



Biju Patnaik Award for Wildlife Conservation 2005

Blackbuck Management Committee, Ganjam – for outstanding contribution to the cause of protection of blackbucks, and for the larger cause of spreading the wildlife conservation ethos.







## HUMAN-ANIMAL CONFLICT

### Man-Animal Interface Management

In a state like Odisha, where rural hinterlands and even outskirts of towns are well-forested, it is but natural that human-wildlife interface is extensive. Increasing biotic and anthropogenic pressure on forests have adversely effected the biodiversity and the habitat as a whole. As a result animals stray out of the forest towards human habitation in search of food, water or use these areas as routes to have access to other wilderness area to meet their ends. This issue remains a matter of concern and multi pronged approach are being implemented to address the situation.

### Depredation trend over years

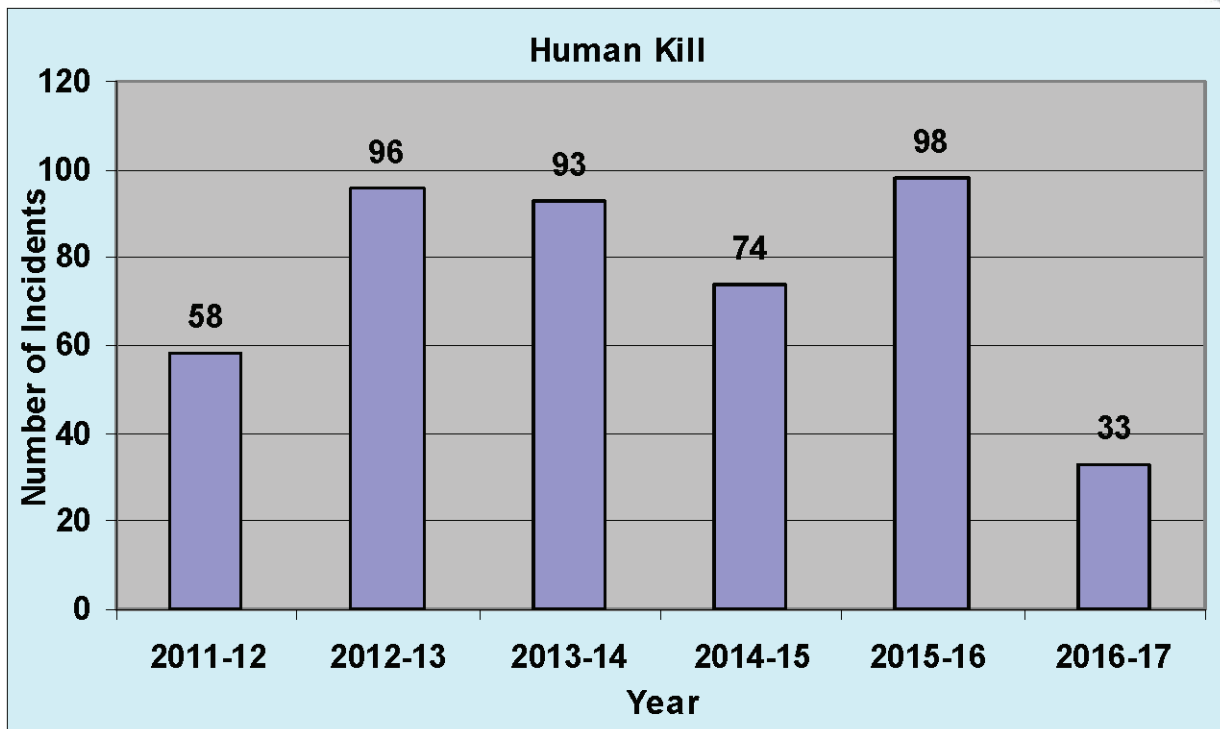
Man-animal conflicts, involving Elephant, Saltwater crocodile, Sloth Bear, Wild Boar and Leopard have been recorded in our State.

(Table showing depredation trend over last five years)

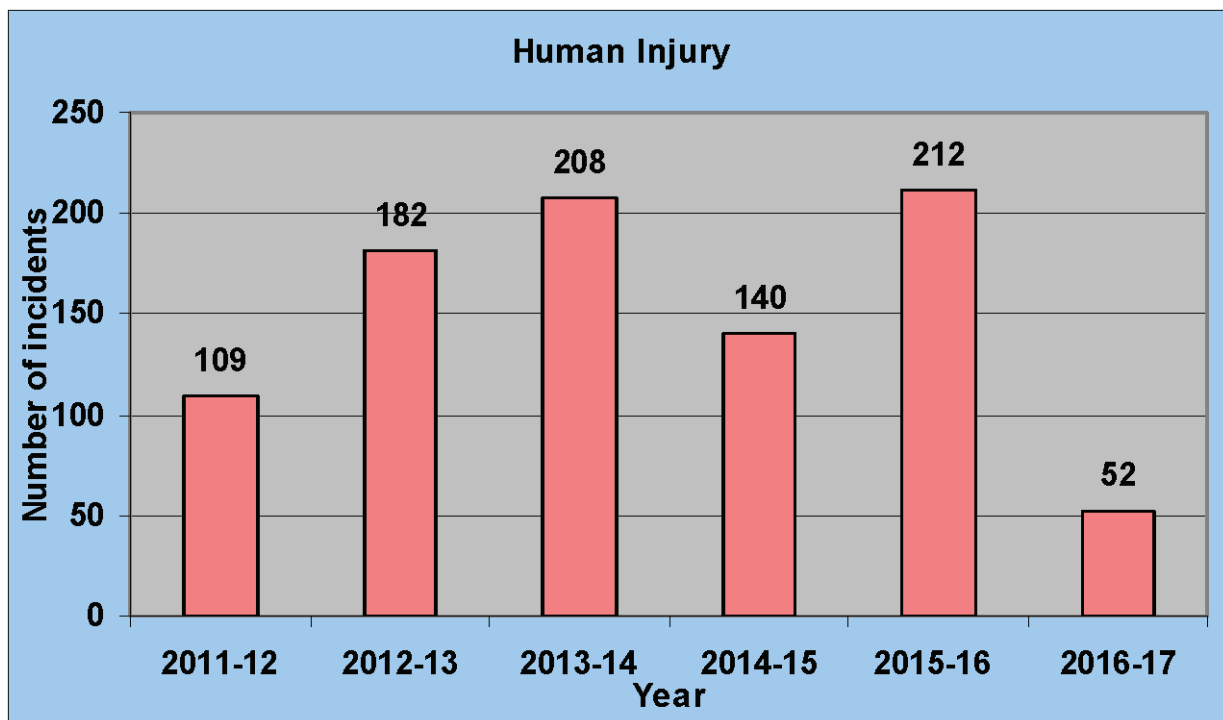
Year	Human kill by		Human Injury by		Crop Damage in Acres	House Damage		Cattle Kill
	Elephant	Other	Elephant	Other		Partly	Fully	
2011-12	41	17	28	81	20762.62	498	303	7
2012-13	83	13	28	154	14034.03	732	313	34
2013-14	67	26	38	170	11790.14	863	176	38
2014-15	65	09	34	106	10049.88	570	209	40
2015-16	80	18	26	186	11525.8	473	146	40
2016-17 upto August 2016	24	09	03	49	909.16	96	35	05



Giant Squirrel, Kapilash Wildlife Sanctuary, Dhenkanal



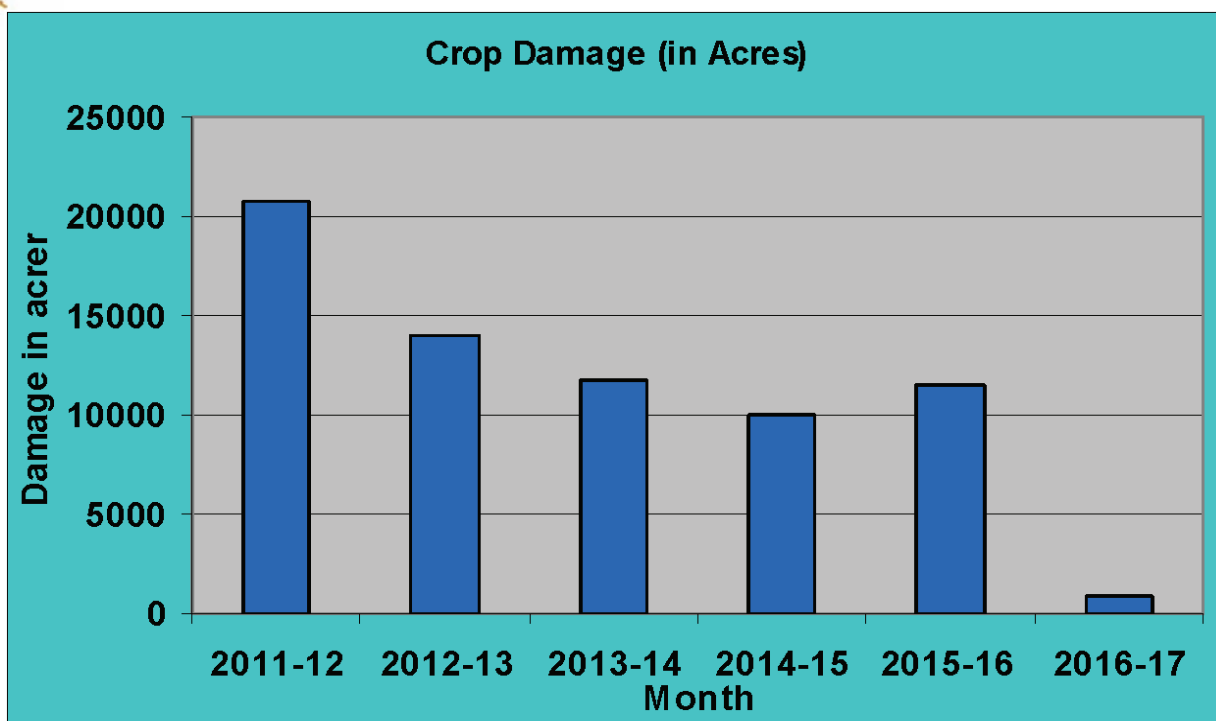
Human kill by wild animal during the period 2011-12 to 2016-17 (up to Aug, 2016) in Odisha.



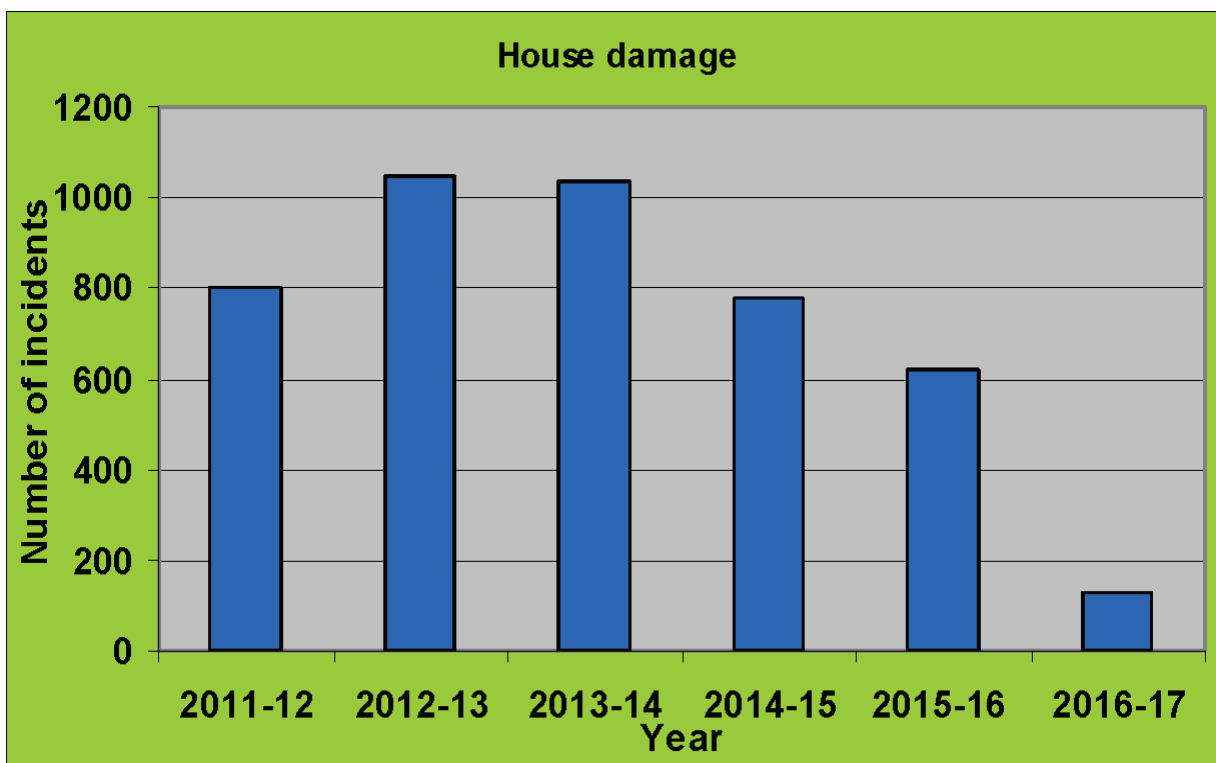
Human Injury wild animal during the period 2011-12 to 2016-17 (up to Aug, 2016) in Odisha





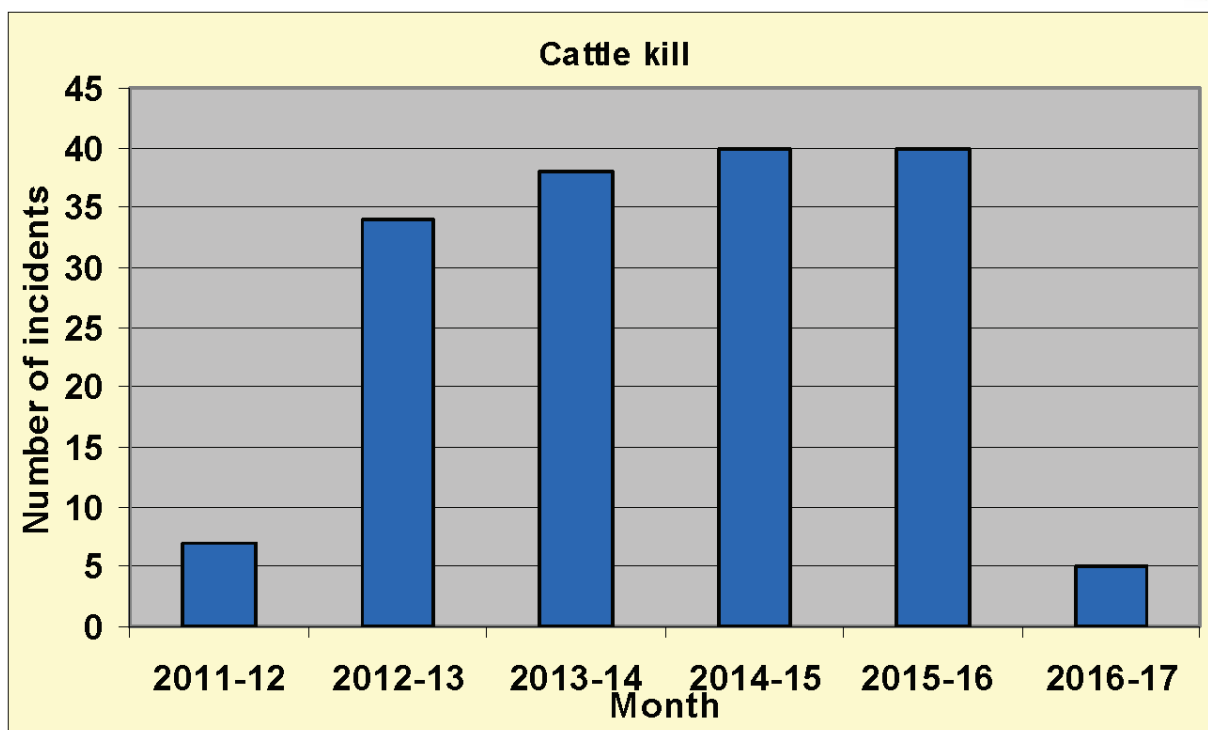


Crop damage by wild animal during the period 2011-12 to 2015-17 (up to Aug, 2016) in Odisha



House damage by wild animal during the period 2011-12 to 2015-17(up to Aug, 2016) in Odisha





Cattle kill by wild animal during the period 2011-12 to 2015-16 (up to Aug, 2016) in Odisha.

### Animal Casualty Scenario...

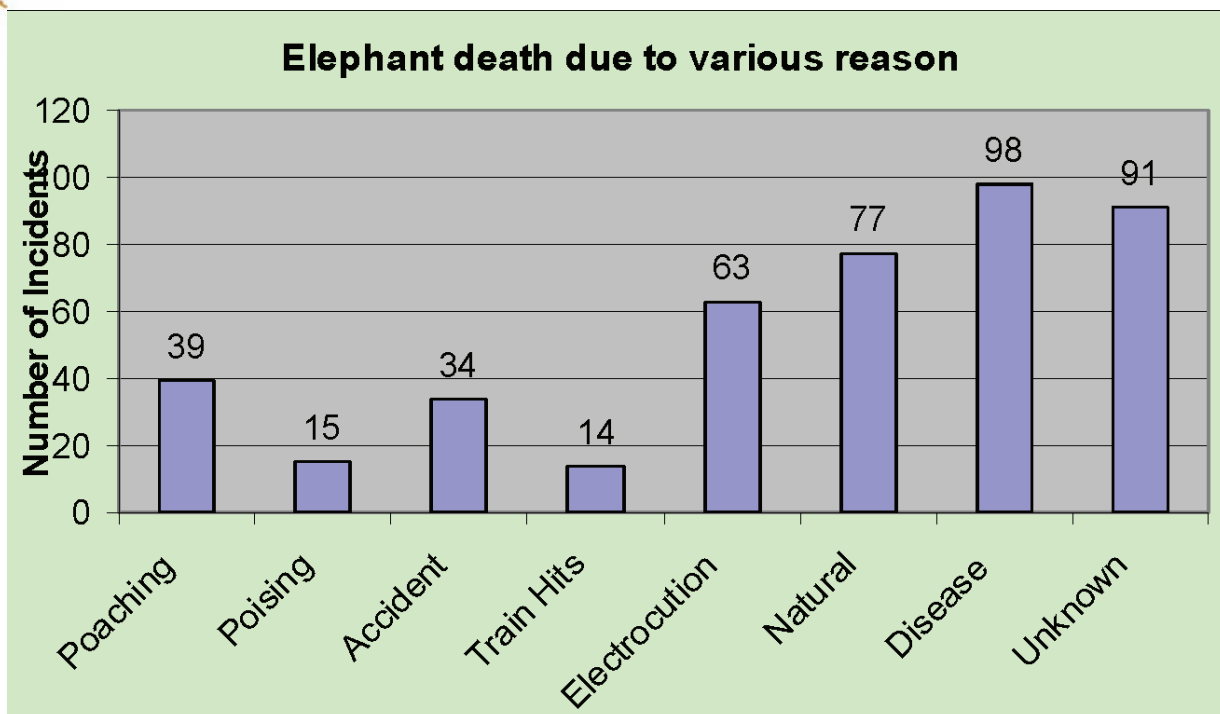
Human-wildlife conflict refers to the interaction between wild animals and people and the resultant negative impact on people and their property, or wild animals and their habitat. It occurs when growing human populations overlap with established wildlife territory, creating damage of property or life to some people and/or wild animals. In Odisha, several wildlife die due to different reasons. Elephant being a mega species is always in focus.

Table showing Elephant death due to various reasons in Odisha during last five year

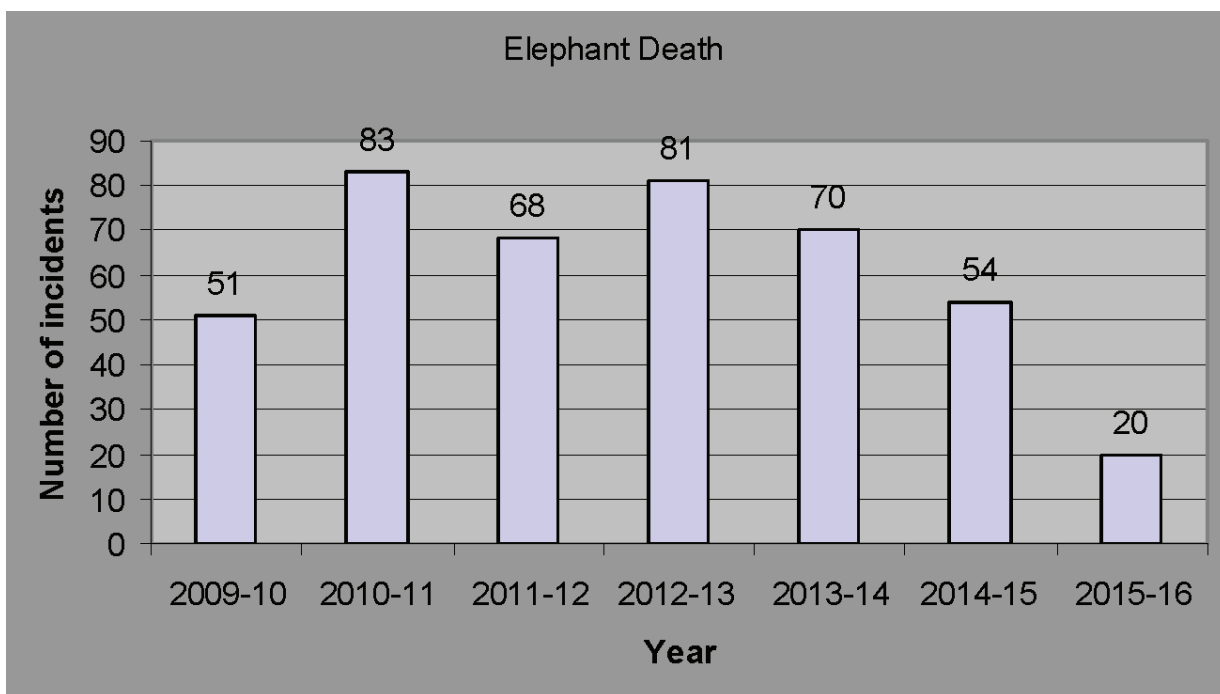
Year	Poaching	Poisoning	Accident	Train Hits	Electrocution		Natural	Disease	Unknown	Total
					Accidental	Deliberate				
2011-12	4	4	5	2	5	8	15	10	15	68
2012-13	5	3	4	11	6	7	10	20	15	81
2013-14	10	1	7	1	1	5	17	11	17	70
2014-15	4	1	12	0	2	2	9	15	9	54
2015-16	02	-	11	01	05	09	09	27	17	81
2016-17 up to Aug, 2016	03	-	06	-	01	02	02	12	08	34







Elephant death due to various reasons in Odisha during the period 2011-12 to 2015-16(up to Aug, 2016) in Odisha



Elephant death during the period 2011-12 to 2015-16 (up to Aug, 2016) in Odisha





### Species wise mortality trend during 2011-12 to 2016-17 up to 31.08.2016

SLNo.	Name of the wildlife species	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 August
1	Barking Deer	15	37	34	52	34	16
2	Gaur	1	2	0	1	02	03
3	Blackbuck	4	10	18	16	20	10
4	Chousingha	0	2	0	1	03	-
5	Common Langur	1	8	12	5	04	07
6	Crocodile	2	2	7	9	04	-
7	Dolphin	14	16	2	7	08	01
8	Mouse Deer	2	0	0	0	03	02
9	Hyena	14	8	10	4	04	-
10	Jackal	0	1	1	0	02	-
11	Leopard	1	4	4	5	09	01
12	Monitor Lizard	1	1	16	0	02	-
13	Nilgai	1	1	0	1	01	-
14	Pangolin	1	2	0	1	01	-
15	Porcupine	1	2	1	4	02	02
16	Buffalo	0	3	0	0	-	-
17	Hare	1	0	0	6	04	-
18	Ratel	2	5	1	1	-	01
19	Sambar	6	14	9	18	22	07
20	Sloth Bear	12	25	50	32	43	07
21	Spotted Deer	40	33	42	42	74	25
22	Wild Boar	22	36	37	49	61	19
23	Jungle Cat	2	0	0	0	-	-
24	Peacock	0	0	1	2	29	02
25	Wolf	0	0	1	2	02	-
26	Fishing cat	0	4	0	0	01	-
27	Tiger	0	3	0	1	-	-
28	Civet cat	0	4	2	0	-	01
29	Python	1	0	2	1	04	-
30	Bird	113	71	169	72	120	-
31	Giant squirrel	0	0	1	1	06	04
32	Whale	0	0	0	2	04	-
33	Elephant	68	82	70	55	81	34
34	King Cobra	1	0	0	0	-	-
	<b>Total</b>	<b>327</b>	<b>375</b>	<b>472</b>	<b>391</b>	<b>551</b>	<b>145</b>







## MITIGATION OF HUMAN-ANIMAL CONFLICT

The instances of man animal interface have grown in the recent years in Odisha, particularly with respect to wild elephants and bears.

### Steps to Mitigate the Issues...

In order to mitigate human-animal conflict issue, a three-pronged strategy is being adopted. Which are implementation of Site specific wildlife conservation plan, reprisal of confine through deployment of anti-depredation squads and prompt payment of compassionate grant mount at Govt. approved rates.

#### A. Site specific Management Plan

Odisha, being rich in wildlife wealth has excellent mineral resources also. It is very likely that during the process of mining and other developmental activities the wildlife and their habitats are affected adversely. So, a site specific wildlife conservation plan has been made mandatory for any clearance of mining or industrial projects. The Plan takes care of protection & conservation requirements of wildlife and improvement of their habitat.

#### Site specific Wildlife Management Plan for Mining

SL No	Division	No. of Projects	Total Project Area (Ha)	Forest Area (Ha)	Total Amount (in lakhs) for Wildlife Conservation
1	Keonjhar	58	20111.34	11160.41	15366.32
2	Bonai	40	8588.44	6416.08	13390.82
3	Angul	19	15252.16	3034.27	11072.12
4	Cuttack	16	3439.65	1707.18	4549.63
5	Dhenkanal	6	1626.34	244.37	2013.73
6	Athgarh	3	131.23	0	905.10
7	Sundargarh	8	4527.45	899.72	3139.82
8	Deogarh	0	0	83.85	83.85
9	Rourkela	4	1586.33	13.22	1081.07
10	Jharsuguda	10	8338.51	2669.65	5785.67
11	Sambalpur	2	1597.35	289.57	884.00
12	Bargarh	1	502.21	73.32	238.00
13	Rairangpur	4	1370.84	1085.16	902.95





14	Kalahandi (S)	2	1442.55	1321.50	5223.00
15	Khariar	1	5100.00	230.13	250.00
16	Berhampur	1	2464.05	2464.05	46.00
17	Rayagada	3	520.67	447.25	1605.50
18	Koraput	4	2709.95	1699.63	3965.10
19	Chandaka WL	4	0.55	0.55	498.00
20	Keonjhar WL	2	460.26	236.97	1409.60
21	Balasore WL	1	0.40	0	97.80
22	Mangrove Forest Division (WL), Rajnagar	2	1389.80	38.70	2004.00
	<b>Total:</b>	<b>191</b>	<b>81160.08</b>	<b>34115.58</b>	<b>74512.08</b>

### List of EDC involving in Wildlife Conservation

SLNo	Name of the Division	Name of the District	No of EDC
1	Satkosia WL	Angul	37
2	Mahanadi WL	Nayagarh	15
3	Balasore WL	Balasore	11
4	STR	Mayurbhanj	168
5	Puri WL	Puri	29
6	Chandaka WL	Khurda	27
7	Rajnagar WL	Kendrapara	48
8	Bhadrak WL	Bhadrak	0
9	Kalahandi South	Kalahandi	14
10	Sunabeda WL	Nuapara	04
11	Keonjhar WL	Keonjhar	05
12	Baamra WL	Sambalpur	25
13	Hirakud WL	Sambalpur	14
14	Balliguda	Kandhamal	80
15	Parlakhemundi	Gajapati	04
16	Dhenkanal	Dhenkanal	23
	<b>Total</b>		<b>504</b>







## Payment of Compassionate Grant

Compassionate payment is one of the most important mitigational measure in the field of animal depredation. In the current year, the amounts for compassionate payment have been revised.

Table showing Amounts Approved for Compassionate payments

Sl. No	Type of Depredation (Section)	Amount in Rs
1	Human Kill (45-AA)	3 lakhs
2	Permanent injury (45-BB)	1 lakh
3	Temporary injury (45-BB) (Including free treatment in govt. hospital)	5,000 + free treatment in Govt. Hospital
4	Cattle Kill (Adult) (45-CC)	5,000
5	Cattle Kill (Calf) (45-CC)	2,500
6	Crop Damage (Paddy + Cereals) (45- EE)	10,000/ Ha
7	Crop Damage (Cash Crop) (45- EE)	12,000/ Ha
8	House Damage (Partial) (45- FF)	2,000
9	House Damage (Full) (45- FF)	10,000



Hanuman langurs, Debrigarh Wildlife Sanctuary





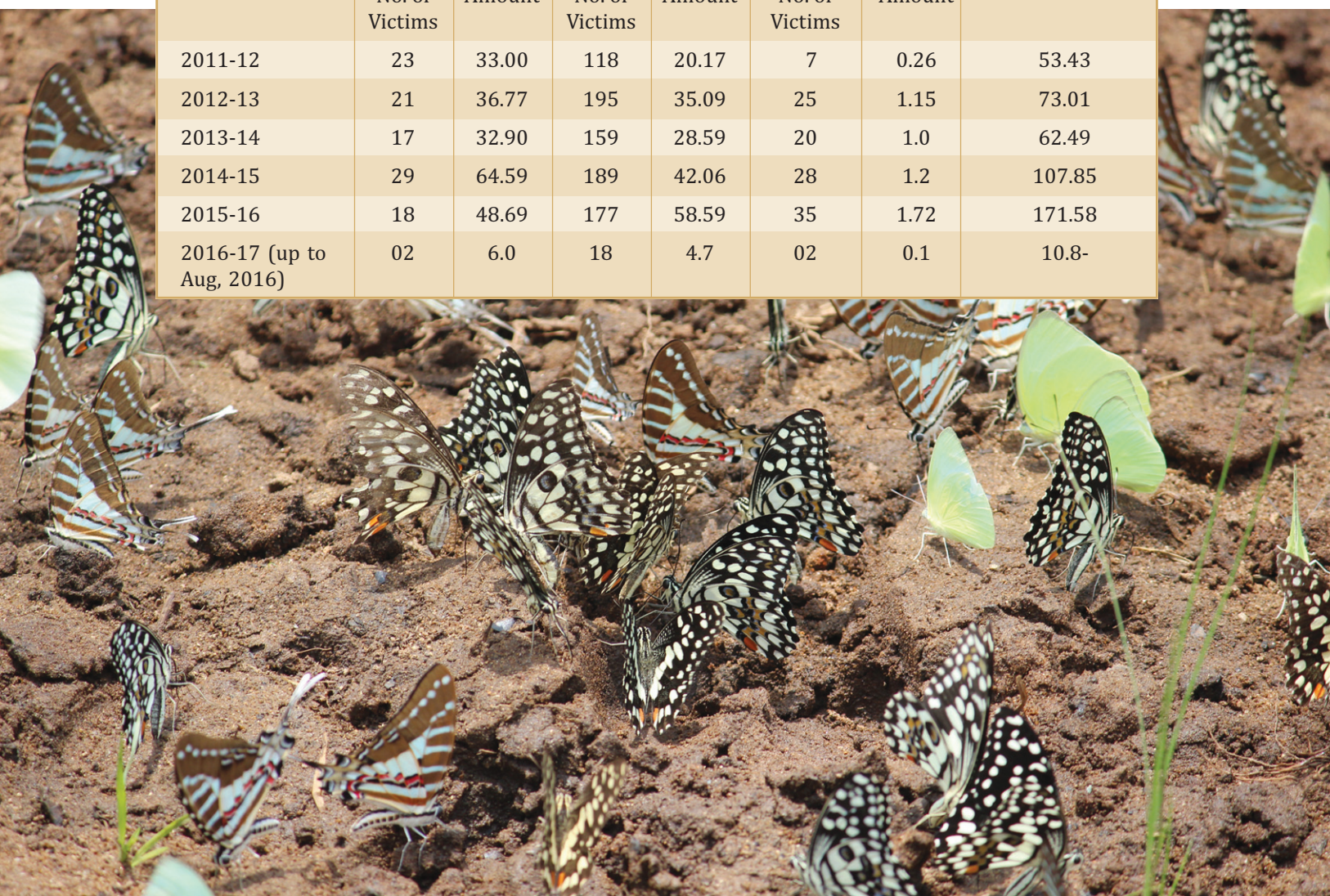
### Trend of Compassionate Grant Payment in Odisha:

Compassionate amount paid in Lakhs in Odisha for Depredation by Elephant

Year	Human Kill		Human Injury		Cattle Kill		House Damage		Crop Damage		Total Amount paid in Lakhs
	No. of Victims	Amount	No. of Victims	Amount	No. of Victims	Amount	No. of Victims	Amount	Crop in Acres	Amount	
2011-12	61	70.13	28	2.89	7	0.26	1149	46.41	110920	267.44	387.14
2012-13	80	147.93	35	9.65	6	0.31	1075	38.66	18456.26	800.53	997.08
2013-14	67	98.4	23	7.09	9	0.375	563	20.01	10130.8	911.87	1037.76
2014-15	99	196.56	27	8.32	7	0.35	1196	46.46	14788.34	1346.04	1597.75
2015-16	74	186.21	64	18.71	04	0.175	1128	46.97	11589.17	1056.87	1308.95
2016-17 Up to 31.8.2016	16	46.0	11	2.45	-	-	122	5.02	2123.56	230.55	284.02

### Compassionate amount paid ( in Lakhs) in Odisha for Depredation by Wild Animals other than Elephant

Year	Human kill		Human Injury		Cattle Kill		Total amount Paid in Lakhs
	No. of Victims	Amount	No. of Victims	Amount	No. of Victims	Amount	
2011-12	23	33.00	118	20.17	7	0.26	53.43
2012-13	21	36.77	195	35.09	25	1.15	73.01
2013-14	17	32.90	159	28.59	20	1.0	62.49
2014-15	29	64.59	189	42.06	28	1.2	107.85
2015-16	18	48.69	177	58.59	35	1.72	171.58
2016-17 (up to Aug, 2016)	02	6.0	18	4.7	02	0.1	10.8-







## **WILDLIFE CENSUS**

Wildlife research and documentation is a recognized mandate of the Wildlife Wing. The conservation projects on crocodile, sea turtle, Dolphin, tiger, elephant and blackbuck, along with the captive-breeding programme at Nandankanan and Tikarapada, and eco-development need and approaches are some of the few areas generating lot of data which are used in planning and execution of wildlife conservation programmes.

Population estimation of various wildlife species has been done regularly for better understanding of wildlife and their habitat which form a vital input for better management.

As a practice, regular census of Elephant, Tiger and Blackbuck in the terrestrial (forest) habitat; the Gharial, Mugger and waterfowl in the freshwater habitat; the Estuarine Crocodile, the Waterfowl, Whale, Dolphins in saline water and the nesting Turtles in the sea coast habitat are being conducted.



Gull in Gahirmatha Marine Wildlife Sanctuary



## WILDLIFE CENSUS RESULTS

(2009-2010, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16)

Sl. No.	Species	Census area / site	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	Saltwater crocodile	Bhitarkanika	1627	1670	1659	1661	1655	1678	1683
2	Mugger crocodile	(i) Satkosia / Mahanadi river	79	91	81	76	90	86	103
		(ii) River systems of Similipal Tiger Reserve	78	85	82	80	79	81	79
		(iii) Ghodahada Reservoir, Digapahandi, Ganjam	40	-	48	48	46	49	55
3	Gharial	Mahanadi River system	03	03	02	02	02	01	3
4	Olive Ridley sea turtle	Gahirmatha	3.57	4.72 lakhs	1.68 lakhs	4.06 lakhs	00	4.13 lakhs	0.52 Lakhs
		Rushikulya river mouth	1.56	2.52 lakhs	4.01 lakhs	2.88 lakhs	0.60 lakhs	3.09 lakhs	0
		Total	5.13 lakhs	7.24 lakhs	5.69 lakhs	6.94 lakhs	0.60 lakhs	7.22 lakhs	0.52 Lakhs
5	Irrawaddy Dolphin	Chilika lagoon	158	156	145	152	158	144	
	Dolphins (7 species)	Entire Coastal Odisha including Chilika lagoon	-	-	-	-	-	450 (Irrawaddy-206 Bottle-Nose-52 Humpback-125 Pantropical spotted-50 Finless- 1 Gaanges River- 1)	
6	Blackbuck	Balukhand-Konark Wildlife Sanctuary	-	34	13	22		0	-
		Balipadar-Bhetnoi area in Ganjam District	-	2181	-			3806	
7	Elephant	Entire State	-	1886	-	1930		1954	







8	Tiger*	Entire State	-	32 (as per Camera Trap Method by WII, Dehradun)	-	-	-	28 (as per Camera Trap Method by WII, Dehradun)	40 (Census by both Camera trap and Pugmark method by State)
9	Leopard	Entire State	-	-	-	-	-	-	318
10	Migratory Birds	(i) Chilika Lagoon	9.04 lakh 114 species	7.92 lakhs 103 species	8.68 lakhs 106 species	8.62 lakhs 112 species	7.07 lakhs 99 species	7.46 lakhs 102 species	8.39 lakhs 94 species
		(ii) Bhitarkanika Mangrove Wetland	1.05 lakh 74 species	0.53 lakhs 107 species	0.53 lakhs 118 species	0.82 lakhs 111 species	0.67 lakhs 142 species	1.13 lakhs 145 species	1.06 lakhs 131 species
		(iii) Hirakud Reservoir	0.49 lakh 26 species	0.11 lakh 34 species	0.47 lakhs 52 species	0.79 lakhs 59 species	0.64 lakhs 54 species	0.58 lakhs 64 species	0.96 lakhs 60 species





## A. Elephant Census

The census of Elephants was conducted in all divisions having Elephant during the months of April-May. The census dates are decided in consultation with the states of Jharkhand, Chhatisgarh and West Bengal, all of which share the Eastern Range Elephant Habitat, with Odisha state. Odisha holds about 70% of the Elephants in the region. The Wildlife Headquarters of Odisha Government organizes the training at the regional level. The technique involved is actual count method.


The Census of elephants in Odisha were conducted in the years 1979, 1999 and 2002, 2007, 2010, 2012 and 2015. The technique for census of Elephant has been developed and refined with every successive census operation. The traditional method involves fixed point counts from salt-licks, watch towers, etc. combined with perambulations during the day time.

### ODISHA: ELEPHANT CENSUS RESULT 2015

Name of the Division	Male	Female	Unknown Sex	Young	Total
Angul	8	22	0	10	40
Athmalik	7	33	2	14	56
Dhenkanal	35	90	5	34	164
Athgarh	21	60	0	33	114
Cuttack	12	13	1	9	35
Satkosia WL	22	83	0	41	146
Mahanadi WL	12	51	0	25	88
<b>Total Angul Circle</b>	<b>117</b>	<b>352</b>	<b>8</b>	<b>166</b>	<b>643</b>
Balasore WL	18	50	0	21	89
Rairangpur	8	21	0	19	48
Karanjaia	13	28	0	15	56
Baripada	14	40	0	14	68
Similipal TR Core	39	206	1	91	337
<b>Total Baripada Circle</b>	<b>92</b>	<b>345</b>	<b>1</b>	<b>160</b>	<b>598</b>
Berhampur	2	11	1	6	20
Ghumsur North	6	11	0	4	21
Ghumsur South	6	21	0	15	42
Parlakhemundi	3	15	0	3	21
Balliguda	4	23	4	15	46
Boudh	2	2	2	2	8
Phulbani	1	4	0	3	8
<b>Total Berhampur Circle</b>	<b>24</b>	<b>87</b>	<b>7</b>	<b>48</b>	<b>166</b>



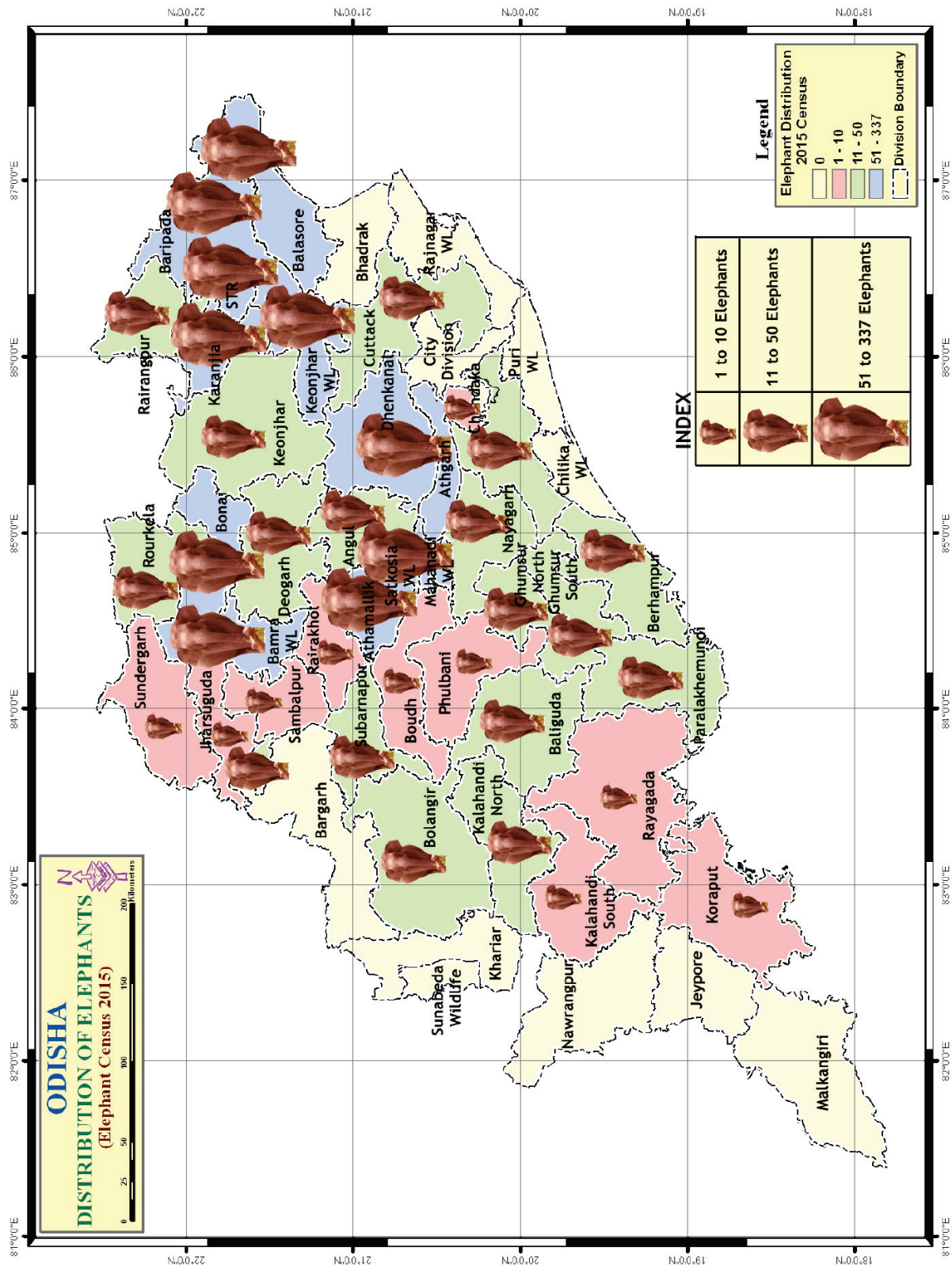




Name of the Division	Male	Female	Unknown Sex	Young	Total
Kalahandi North	7	9	0	3	19
Kalahandi South	1	3	0	3	7
Subarnapur	1	29	0	7	37
Bolangir	2	22	0	4	28
Khariar	0	0	0	0	0
<b>Total Bhawanipatna Circle</b>	<b>11</b>	<b>63</b>	<b>0</b>	<b>17</b>	<b>91</b>
Chandaka WL	3	3	0	2	8
Chilika WL	0	0	0	0	0
City Forest	0	0	0	0	0
Khurda	8	16	0	7	31
Nayagarh	2	11	1	3	17
Bhadrak WL	0	0	0	0	0
<b>Total Bhubaneswar Circle</b>	<b>13</b>	<b>30</b>	<b>1</b>	<b>12</b>	<b>56</b>
Rayagada	2	5	0	2	9
Koraput	0	0	0	0	0
<b>Total Koraput Circle</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>9</b>
Bonai	11	43	0	11	65
Deogarh	7	19	6	10	42
Keonjhar	12	24	1	10	47
Keonjhar WL	13	27	1	10	51
Rourkela	7	21	0	11	39
Sundargarh	4	3	2	1	10
<b>Total Rourkela Circle</b>	<b>54</b>	<b>137</b>	<b>10</b>	<b>53</b>	<b>254</b>
Sambalpur	3	1	0	1	5
Jharsuguda	0	1	0	0	1
Rairakhol	4	3	0	2	9
Bamra WL	19	60	0	23	102
Hirakud WL	2	12	0	6	20
Bargarh	0	0	0	0	0
<b>Total Sambalpur Circle</b>	<b>28</b>	<b>77</b>	<b>0</b>	<b>32</b>	<b>137</b>
<b>ODISHA GRAND TOTAL</b>	<b>341</b>	<b>1096</b>	<b>27</b>	<b>490</b>	<b>1954</b>

*The male, female ratio of 1:3 is one of the best in the Country.*



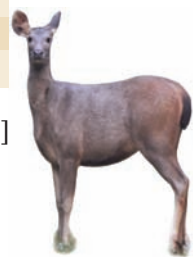






### Elephant Population Trend in Odisha from 1979 to 2015

Sl. No.	Name of Divisions	May-79	May-99	May-02	May-07	Apr-10	Jun-12	May-15
1	Angul	173	162	24	76	40	56	40
2	Athamallik	0	29	37	23	15	28	56
3	Athgarh	75	154	156	139	133	131	114
4	Balasore WL	0	41	56	67	81	93	89
5	Balliguda	54	17	32	35	41	36	46
6	Bamra WL	179	183	201	194	152	176	102
7	Bargarh	0	0	0	0	0	15	0
8	Baripada	0	0	0	48	48	52	68
9	Berhampur	0	0	0	9	37	35	20
10	Bhadrak WL	0	0	0	2	0	0	0
11	Bolangir	0	0	0	0	10	22	28
12	Bonai	25	53	82	69	45	42	65
13	Boudh	0	15	0	16	8	4	08
14	Chandaka WL	0	83	62	67	23	24	08
15	Chilika WL	0	0	0	0	0	0	0
16	City Forest	0	0	0	0	0	0	0
17	Cuttack	0	0	0	8	14	22	35
18	Deogarh	7	21	9	27	58	49	42
19	Dhenkanal	92	94	81	132	157	162	164
20	Ghumsur (N)	5	24	9	17	13	17	21
21	Ghumsur (S)	8	5	6	0	0	32	42
22	Hirakud WL	0	0	0	0	0	16	20
23	Jeypore	0	0	0	0	0	0	0
24	Kalahandi (N)	0	0	0	26	34	34	19
25	Kalahandi (S)	60	24	61	27	30	0	7
26	Karanjia	0	28	44	40	32	23	56
27	Keonjhar	90	75	112	33	41	73	47
28	Keonjhar WL	0	0	0	27	35	40	51
29	Khariar	0	0	0	0	0	0	0
30	Khurdha	57	0	0	8	6	14	31
31	Koraput	0	0	0	0	14	8	0
32	Mahanadi WL	0	0	25	1	7	5	88
33	Malkangiri	0	0	0	0	0	0	0
34	Mangrove WL	0	0	0	0	0	0	0
35	Nabarangpur	0	0	0	0	0	0	0
36	Nayagarh	51	0	0	6	12	5	17
37	Parlakhemundi	217	86	42	44	21	19	21
38	Phulbani	121	3	6	14	1	6	8
39	Puri WL	0	0	0	0	0	0	0
40	Rairakhol	51	170	165	11	16	6	9
41	Rairangapur	0	0	0	48	48	47	48
42	Rayagada	102	10	0	24	12	4	9
43	Rourkela	0	0	0	0	11	11	39
44	Jharsuguda	0	0	0	1	4	0	1
45	Sambalpur	7	54	64	91	77	16	5
46	Satkosia WL	0	0	155	194	224	229	146
47	STR Core	670	496	412	298	331	334	337
48	Subarnapur	0	0	0	23	30	31	37
49	Sunabeda WL	0	0	0	0	0	0	0
50	Sundargarh	0	0	0	17	25	13	10
	<b>GRAND TOTAL</b>	<b>2044</b>	<b>1827</b>	<b>1841</b>	<b>1862</b>	<b>1886</b>	<b>1930</b>	<b>1954</b>





## B. Tiger / Leopard Census

‘Pugmark Tracking’ involves collection of pugmark tracings and plaster casts from the field and analysis of these separately for individual male, female, and cub of tiger and leopard, and their diagnostic track dimensions and study of spatial distribution of tigers.

The final result indicates the (a) total numbers of male, female and cub of tiger and leopard, (b) their pugmark dimensions with stride where available, (c) the names of locations where the pugmarks of each tiger have been traced to show the gross movement areas (d) interrelationship among different tigers by linking each male to female and the latter to cubs tracked in the movement area, and finally (e) spatial distribution map.

192 tigers were estimated to be found in the year State during the year 2004 and 40 in 2016 (Table-2) by pug-mark technique.

In the year 2004-05, the Project Tiger authorities and the Wildlife Institute of India together devised a monitoring method. In this method, there were two approaches to collect field data. First, information on habitat conditions and different signs of Tiger evidences were to be collected, and second, by using camera traps Tiger photographs were to be obtained from all Tiger areas.

### This process involves following phases namely:

Phase-I: involves field data collection at the beat level using a eight-day standardized protocol after due training to field personnel in states. The eight day protocol consists of field data collection of evidence pertaining to carnivore (tiger, leopard), signs, ungulate abundance, human disturbance and status of habitat. Formats for the eight-day beat level data collection were made available in local vernacular language to help field staff.(done at the forest Department, Odisha).

Phase-II: involves computation of human disturbance indices, habitat indices and landscape indices from remotely sensed data (done at the Wildlife Institute of India).

Phase-III: involves computation of tiger density using camera traps in a mark recapture statistical framework through research biologists deployed by the Wildlife Institute of India, besides computation of ungulate density using distance sampling. The result of camera trap method are given as below:

Table-1 Showing All India Tiger Estimation By Camera Trap Methods \*

Sl No	Name of the Tiger Reserve	Year 2006	Year 2010	Year 2014	Year 2016
1	Similipal Tiger Reserve	20(17-23)	23(12-34)	Whole State	Census by both Camera trap and P u g m a r k method by State
2	Satkosia Tiger Reserve	6	8(7-9)		
3	Sunabeda Tiger Reserve	9	Census not done		
4	Sporadic Occurrence	6			
	<b>ODISHA TOTAL</b>	<b>45(37-53)</b>	<b>32(20-44)</b>	<b>28</b>	<b>40</b>

\* This is only CAMERA TRAP estimation, which is different from earlier process of sampling through pugmark survey. Hence, they are not comparable.







Table-2 Odisha Tiger Estimations 2004 &amp; 2016

	Odisha Tiger Census 2004				Odisha Tiger Census 2016			
	Male	Female	Cub	Total	Male	Female	Cub	Total
<b>Bhawanipatna</b>								
Sunabeda	11	10	11	32	01	03	00	04
Khariar	1	2	1	4	01	00	00	01
Kalahandi(N)	0	0	0	0	00	00	00	00
Kalahandi (S)	0	1	0	1	00	00	00	00
Balangir (E)	0	0	0	0	00	00	00	00
Balangir(W)	0	0	0	0	00	00	00	00
Sub-Total	12	13	12	37	02	03	00	05
<b>Koraput Circle</b>								
Jeypore (incl tigers of Malkangiri)	1	1	0	2	00	00	00	00
Rayagada	2	1	0	3	00	00	00	00
Malkanagiri (Tigers with Jeypore)	0	0	0	0	00	00	00	00
Nawarangpur	0	0	0	0	00	00	00	00
Koraput	1	1	0	2	00	00	00	00
Sub-Total	4	3	0	7	00	00	00	00
<b>Angul Circle</b>								
Satkosia(WL)	4	6	1	11	01	01	00	02
Angul	0	0	0	0	00	00	00	00
Dhenkanal	0	0	0	0	00	00	00	00
Athagarh	0	0	0	0	00	00	00	00
Athmalik	0	0	0	0	00	00	00	00
Cuttack	0	0	0	0	00	00	00	00
Sub-Total	4	6	1	11	01	01		02
<b>Sambalpur Circle</b>								
Sambalpur(S)	0	0	0	0	00	00	00	00
Sambalpur(N)	0	0	0	0	00	00	00	00
Rairakhole	0	0	0	0	00	00	00	00
Bamra WL	1	1	0	2	00	00	00	00
Hirakud WL	2	3	0	5	00	00	00	00
Bargarh	0	0	0	0	00	00	00	00
Sub-Total	3	4	0	7	00	00	00	00
<b>Bhubaneswar Circle</b>								
Nayagarh	0	0	0	0	00	00	00	00
Mahanadi WL	3	2	2	7	00	00	00	00





Chandka	0	0	0	0	00	00	00	00
Khurda	0	0	0	0	00	00	00	00
Sub-Total	3	2	2	7	00	00	00	00
<b>Berhampur Circle</b>								
Berhampur	0	0	0	0	00	00	00	00
Ghumsur (S)	0	1	1	2	00	00	00	00
Ghumsur (N)	0	2	6	8	00	00	00	00
Phulbani	0	0	2	2	00	00	00	00
Boudh	0	1	2	3	00	00	00	00
Parlakhemundi	0	0	0	0	00	00	00	00
Balliguda	3	1	2	6	00	00	00	00
Sub-Total	3	5	13	21	00	00	00	00
<b>Rourkela Circle</b>								
Anandpur (WL)	0	0	0	0	01	02	00	03
Sundargarh	0	0	0	0	00	01	00	01
Bonai	0	0	0	0	00	00	00	00
Raurkela	0	0	0	0	00	00	00	00
Deogarh	0	0	0	0	00	00	00	00
Keonjhar	0	0	0	0	00	00	00	00
Sub-Total					01	03	00	04
<b>STR Circle</b>								
Similipal	27	39	28	94	09	14	03	26
Baripada	0	0	2	2	00	00	00	00
Karanja	1	1	0	2	00	03	00	03
Rairangpur	0	1	2	3	00	00	00	00
Bhadrak WL	0	0	0	0	00	00	00	00
Balasore WL	0	1	0	1	00	00	00	00
Sub-Total	28	42	32	102	09	17	03	29
<b>Summary</b>								
Bhawanipatna Circle	12	13	12	37	02	03	00	05
Koraput Circle	4	3	0	7	00	00	00	00
Angul Circle	4	6	1	11	01	01	00	02
Sambalpur Circle	3	4	0	7	00	00	00	00
Berhampur Circle	3	5	13	21	00	00	00	00
Rourkela Circle	0	0	0	0	01	03	00	04
Bhubaneswar Circle	3	2	2	7	00	00	00	00
STR Circle	28	42	32	102	09	17	03	26
<b>Odisha G. Total</b>	<b>57</b>	<b>75</b>	<b>60</b>	<b>192</b>	<b>13</b>	<b>24</b>	<b>03</b>	<b>40</b>







Table-3 Odisha Leopard Estimations 2004 &amp; 2016

date: 08 March 2004	LEOPARD 2004				LEOPARD 2016			
	Male	Female	Cub	Total	Male	Female	Cub	Total
<b>Bhawanipatna Circle</b>								
Sunabeda	14	17	5	36	6	11	3	20
Khariar	1	2	0	3	2	4	1	7
Kalahandi (N)	2	5	1	8	8	4	0	12
Kalahandi (S)	0	5	0	5	3	4	1	8
Subarnapur	1	2	0	3	1	0	0	1
Bolangir	1	3	2	6	2	0	0	2
Sub-Total	19	34	8	61	22	24	5	51
<b>Koraput Circle</b>								
Jeypore (incl tigers of Malkangiri)	9	7	1	17	3	2	0	5
Rayagada	5	5	1	11	2	4	0	6
Malkanagiri (Tigers with Jeypore)	5	4	1	10	1	0	0	1
Nawarangpur	1	2	0	3	1	0	0	1
Koraput	4	6	1	11	1	1	0	2
Sub-Total	24	24	4	52	8	7	0	15
<b>Angul Circle</b>								
Satkosia(WL)	9	9	1	19	7	11	0	18
Angul	2	2	0	4	0	0	0	0
Dhenkanal	2	0	0	2	0	1	0	1
Athagarh	0	0	0	0	1	2	0	3
Athmalik	6	8	2	16	9	5	0	14
Cuttack	0	1	0	1	0	0	0	0
Mahanadi WL	7	8	0	15	6	10	1	17
Sub-Total	26	28	3	57	23	29	1	53
<b>Sambalpur Circle</b>								
Sambalpur	1	1	0	2	1	0	0	1
Jharsuguda	1	0	1	2	0	0	0	0
Rairakhole	2	0	0	2	4	10	0	14
Bamra WL	7	8	1	16	5	3	0	8
Hirakud WL	10	11	0	21	9	11	2	22
Bargarh	0	1	0	1	1	0	0	1
Sub-Total	21	21	2	44	20	24	2	46
<b>Bhubaneswar Circle</b>								
Nayagarh	2	0	0	2	1	0	0	1





Chandaka	4	4	0	8	0	0	0	0
Khurda	4	4	0	8	3	7	0	10
Sub-Total	10	8	0	18	4	7	0	11
<b>Berhampur Circle</b>								
Berhampur	1	0	0	1	2	3	0	5
Ghumsur (S)	4	4	0	8	4	7	0	11
Ghumsur (N)	25	21	3	49	6	10	1	17
Phulbani	4	11	2	17	2	1	0	3
Boudh	6	6	0	12	4	5	0	9
Parlakhemundi	2	0	0	2	2	1	0	3
Balliguda	4	5	0	9	4	6	0	10
Sub-Total	46	47	5	98	24	33	1	58
<b>Rourkela Circle</b>								
Anandpur (WL)	0	2	1	3	2	3	0	5
Sundargarh	3	6	1	10	4	7	1	12
Bonai	2	6	0	8	1	0	0	1
Raurkela	0	0	0	0	1	0	0	1
Deogarh	0	0	0	0	0	0	0	0
Keonjhar	0	4	0	4	0	0	0	0
Sub-Total	5	18	2	25	8	10	1	19
<b>STR Circle</b>								
Similipal	32	50	18	100	23	11	7	41
Baripada	4	9	0	13	1	2	0	3
Karanja	4	3	1	8	7	3	3	13
Rairangpur	4	2	0	6	2	2	0	4
Bhadrak WL	0	0	0	0	0	0	0	0
Balasore WL	1	4	0	5	2	2	0	4
Sub-Total	45	68	19	132	35	20	10	65
<b>Summary</b>								
Bhawanipatna Circle	19	34	8	61	22	24	5	51
Koraput Circle	24	24	4	52	8	7	0	15
Angul Circle	26	28	3	57	23	29	1	53
Sambalpur Circle	21	21	2	44	20	24	2	46
Berhampur Circle	46	47	5	98	24	33	1	58
Rourkela Circle	5	18	2	25	8	10	1	19
Bhubaneswar Circle	10	8	0	18	4	7	0	11
STR Circle	45	68	19	132	35	20	10	65
<b>Odisha Total</b>	<b>196</b>	<b>248</b>	<b>43</b>	<b>487</b>	<b>144</b>	<b>154</b>	<b>20</b>	<b>318</b>





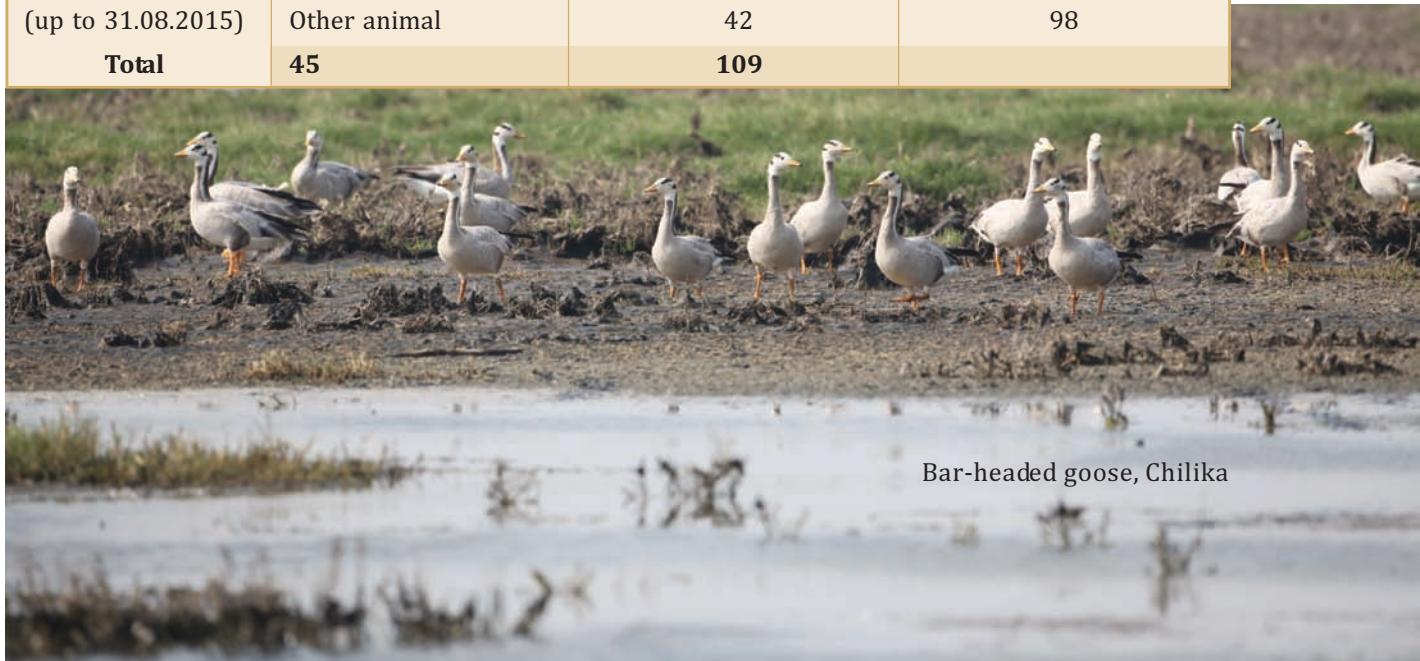


## DETECTION OF WILDLIFE OFFENCE CASES

Protection is one of the prime mandate of wildlife organization. Several field forest staff, special squads and many communities devote their prime time in protection of wildlife. The details of the wild life Offence cases booked and accused arrested are as follows:

### Wildlife Offence cases booked and accused arrested (2011-12 to 2016-17 (up to August 2017))

Year	Animal	No of O R cases booked	No of accused Forwarded
2011-12	Elephant	37	22
	Other animal	49	104
	<b>Total</b>	<b>86</b>	<b>126</b>
2012-13	Elephant	11	17
	Other animal	94	192
	<b>Total</b>	<b>105</b>	<b>209</b>
2013-14	Elephant	15	33
	Other animal	158	318
	<b>Total</b>	<b>173</b>	<b>351</b>
2014-15	Elephant	<b>07</b>	<b>29</b>
	Other animal	180	361
	<b>Total</b>	<b>187</b>	<b>390</b>
2015-16	Elephant	08	56
	Other animal	230	649
	<b>Total</b>	<b>238</b>	<b>705</b>
2016-17 (up to 31.08.2015)	Elephant	03	11
	Other animal	42	98
	<b>Total</b>	<b>45</b>	<b>109</b>



Bar-headed goose, Chilika



## BUDGET

### Projects and Schemes....

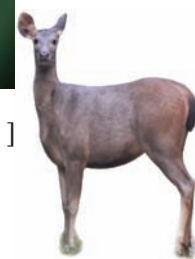
Wildlife organization has different schemes for wildlife management which are funded under Non-Plan, State Plan, & Central Plan. The details of financial target and achievement position under Non-Plan, State Plan & Central Plan during 2015-16 in respect of Wildlife Organization (Rs. in lakhs) are as follows:

Sl. No.	Name of the scheme	Budget provision in Lakhs	Amount released by Govt. of India (including revali-dated amount)	Amount sanctioned by State Govt. in Lakhs	Expenditure incurred in Lakhs
1	2	3	4	5	6
1	Non-Plan (Including 13th F.C grant for preservation of forest Wealth)	6147.52	Not applicable	4838.53	4720.88
2	State Plan				
	a) One time ACA-Promotion of Eco-Tourism in Wildlife Sanctuary & Forest Resorts	200.00	-do-	--	--
	b) Wildlife Protection & Conservation measures including those for black buck and fresh water turtles	1829.55	-do-	1829.55	1815.86
	c) Protection & Conservation of Olive Ridley turtle	70.00	-do-	70.00	70.00
	d) Integrated development of wildlife habitats (Central Share + State share)	563.80	252.69	480.11	476.37
	e) Elephant Management Project	442.77	-do-	442.77	441.58
	f) Management and Development of Elephant Corridor	519.10	-	519.10	517.78
	g) Strengthening of transmission line in elephant corridor	0.01	-	0	0
	h) 111-Zoological Park - Nature Conservation. Maintenance of wildlife	60.00	-	-	-





1	2	3	4	5	6
	i) Satkosia Tiger Reserve (Central Share+State Share)	850.65	167.46	318.93	318.93
	j) 796-Tribal Area Sub-Plan- Similipal Tiger Reserve- State share+ Central Share)	1301.35	400.39	664.16	663.87
	k) 4406- Capital Outlay Construction of Prakruti Bhawan	0.01	-	0	0
	<b>TOTAL STATE PLAN</b>	<b>5837.24</b>	<b>820.54</b>	<b>4324.62</b>	<b>4304.39</b>
<b>3</b>	<b>Central Plan</b>				
	a) Integrated development of wildlife habitats	600.00	Scheme merged with State plan		
	b) Elephant Management Project	300	106.66	106.66	106.66
	c) Relocation of villages from sanctuaries & National Parks	0.01	0	0	0
	d) Similipal Biosphere Reserve	400.00	0	0	0
	e) Conservation & Management of Mangroves	200.00	101.96	66.00	66.00
	<b>TOTAL CENTRAL PLAN</b>	<b>1500.01</b>	<b>208.62</b>	<b>172.66</b>	<b>172.66</b>





## WILDLIFE PROTECTION, CONSERVATION AND MANAGEMENT UNDER CAMPA

Activities proposed in the APO (2015-16 for management of wildlife inside and outside the protected area network under CAMPA are as follows:

Protection of wildlife and their habitat, anti-depredation activities, strengthening the communication network, infrastructure development in the field, habitat improvement activities, eco-development programmes, Capacity building, Training programme, Engagement of Research Fellows, Site specific Wildlife Management Plan.

Table showing the details of Wildlife Protection and Management in the action plan for 2014-15 under CAMPA

SLNo.	Item of work	Odisha State Grand total (Rs. in lakhs)
1	Protection Activities	796.00
2	Anti-depredation activities	2355.00
3	Communication	398.00
4	Infrastructure Development	245.00
5	Habitat Improvement	1552.00
6	Management of Protected Areas and Zoos	175.00
7	Research activities	35.00
8	i) Implementation of Site specific Wildlife Conservation Plans	604.00
	ii) Preparation of Comprehensive Wildlife Management Plan for the State	146.00
9	i) Implementation of Elephant Train Collision Mitigation Plan	10.00
10	Training & Capacity Building	10.00
11	Observation of Important days	05.00
12	IEC Materials	05.00
13	Additional amount for rehabilitation with in Similipal Tiger Reserve, Baripada	350.00
	Strengthening of Wild crime cell, Elephant Cell etc at WLHQ	10.00
	<b>Total</b>	<b>6736.00</b>







**CAMERA TRAP PHOTO SIMILIPAL TIGER RESERVE**



Melanistic Tiger (*Panthera tigris*)



Melanistic tiger and normal tiger (*Panthera tigris*)



Leopard (*Panthera pardus*)



Leopard Cat (*Prionailurus belgalensis*)



Palm civet cat (*Paradoxurus hemaphrobitus*)



Indian Civet Cat (*Viverricula indica*)







CAMERA TRAP PHOTO SIMILIPAL TIGER RESERVE



Gaur (*Bos gaurus*)



Sambar (*Rusa unicolor*)



Spotted deer (*Axis axis*)



Porcupine (*Hystrix indica*)



Wildboar (*Sus scrofa cristatus*)



Sloth Bear (*Melursus ursinus*)







CAMERA TRAP PHOTO SIMILIPAL TIGER RESERVE



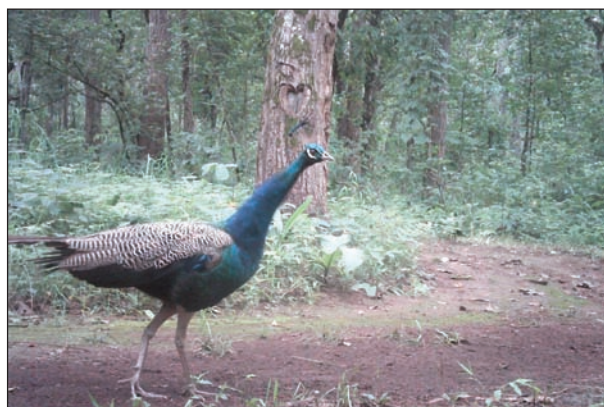
Ratel (*Mellivora capensis*)



Barking Deer (*Muntiacus muntjak*)



Stripe-necked mongoose (*Herpestes smithii*)



Peafowl (*Pavo cristatus*)



Mouse Deer (*Moschiola indica*)



Hare (*Lepus nigricollis*)





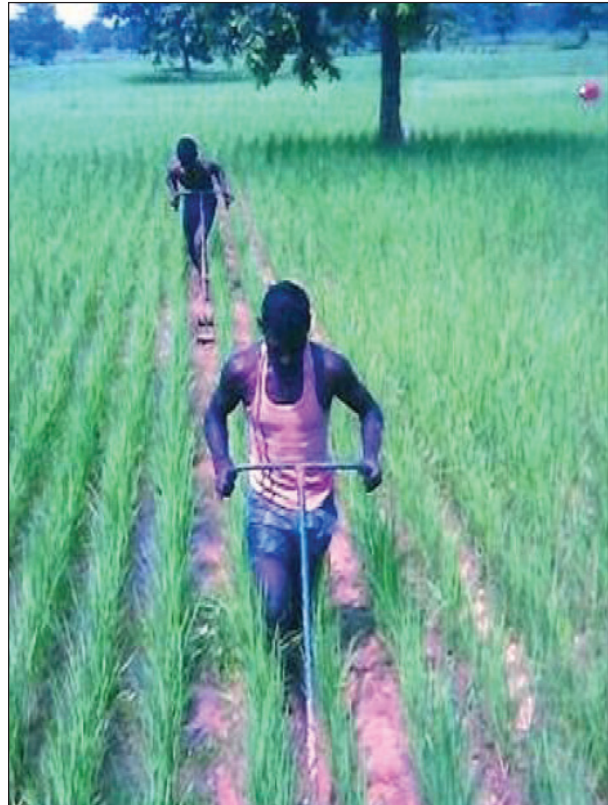
SIMILIPAL TIGER RESERVE



Development of meadow at Jenabil after relocation



Drinking water facility at Nabra rehabilitation colony



Strengthening livelihood of Asankudar rehabilitation colony







CAMERA TRAP PHOTO IN SUNDARGARH FOREST DIVISION



Leopard (*Panthera pardus*)



Leopard (*Panthera pardus*)



Mouse Deer (*Moschiola indica*)



Barking deer (*Muntiacus muntjak*)



Wildboar (*Sus scrofa cristatus*)



Rhesus macaque (*Macaca mulatta*)







CAMERA TRAP PHOTO IN SUNDARGARH FOREST DIVISION



Jungle Fowl (*Gallus gallus*)



Sloth Bear (*Melursus ursinus*)



Ratel (*Mellivora capensis*)



Porcupine (*Hystrix indica*)



Small Indian Mongoose (*Herpestes auropunctatus*)



Jungle Cat (*Felis chaus*)







**SUNDARGARH FOREST DIVISION**



Animal Control Scare Away Canon used for driving away wild elephant from human habitation



Spikes on electric pole to check elephant rubbing to prevent death of elephant due to electrocution







Leopard (*Panthera pardus*)



Gaur (*Bos gaurus*)





**BHITARAKANIKA NATIONAL PARK**



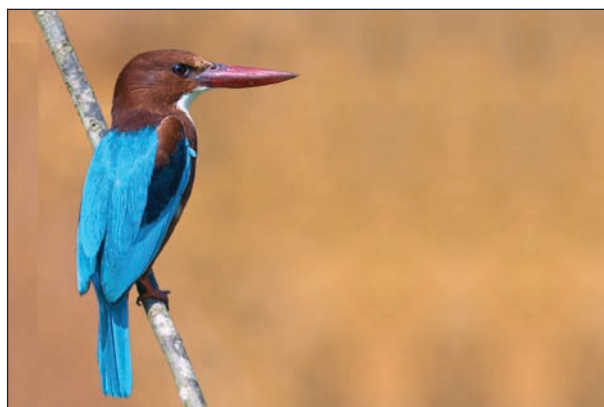
Pied Kingfisher



Small blue Kingfisher



White-breasted Kingfisher



White throated Kingfisher



Black-caped Kingfisher



Storkbill Kingfisher







Workshop on Eco-Tourism in Odisha at Bhubaneswar



DFOs Conference at Satkosia Tiger Reserve, Angul







Watch tower at Mainsigotha, Khordha Forest Division



Watch tower at Rahan RF, Rairakhol Forest Division





**NANDANKANAN BIOLOGICAL PARK**



Nepenthes (Pitcher Plant)



Tranquilization Training programme







Grants Zebra procured from Tel-Aviv Israel



Megha and Nandan







Prize distribution during Elephant Day Celebration 2016 at Nandankanan



Elephant day celebration at Godibari, Chandaka Wildlife Division







**MAHANADI WILDLIFE DIVISION**



Eco-tourism complex at Badmul



Member of Eco-tourism Committee, Badmul







Eco-tourism complex at Baghamunda



Eco-tourism complex at Chhotkei







CHANDAKA WILDLIFE DIVISION



Indian Skimmer in sandbar of Mahanadi River near Munduli



A Pair of Grey Francolin







Leopard Cat in Bhitarkanika, Mangrove Forest Division (WL), Rajnagar



Male Blackbuck in Buguda, Ghumsur South Forest Division











Wildlife Organisation  
Forest and Environment Department  
Government of Odisha  
Email : [odishawildlife@gmail.com](mailto:odishawildlife@gmail.com)  
Web : [www.odishawildlife.org](http://www.odishawildlife.org)